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ABSTRACT OF

An Address

ON

THE HISTORICAL RELATIONS BETWEEN SURGERY AND MEDICINE.

Delivered at the Medical Congress, St. Louis, on Sept. 27th, 1904,

By T. CLIFFORD ALLBUTT, M.D. CANTAB., F.R.S., &c.,

REGIUS PROFESSOR OF MEDICINE, UNIVERSITY OF CAMBRIDGE, AND REPRESENTATIVE OF GREAT BRITAIN AT THE CONGRESS.

[Professor Clifford Allbutt commenced his address by recalling to the minds of his hearers the way in which about the year 1864 surgeons began to treat such cases as abdominal tumours, ileus, and other abdominal conditions, and cerebral tumour which had previously been considered proper to be treated by physicians. He continued:—]

It seems to me, then, that the present is a critical moment in the relations of medicine and surgery, especially in England, where the two branches of the art have been separated so radically as to appear to be "two professions"—a moment when it is our duty to contemplate the unity of medicine, to forecast its development as a connected whole, and to conceive a rational ideal of its means and ends. But this large and prophetic vision of medicine we cannot attain without a thoughtful study of its past. If, as from a height, we contemplate the story of the world, not its pageants, for in their splendour our eyes are dim, but the gathering, propagation, and ordination of its forces, whence they sprang and how they blend this way and that to build the ideas and institutions of men, we may wonder at their creative activity or weep over the errors and the failures, the spoliation and the decay, which have marred or thwarted them; and if we contemplate not the whole but some part of men's sowing and men's harvest, such a part as medicine, the keener are our sorrow and disappointment, or our joy and our hope, as we admire the great ends we have gained or dwell upon the loss and suffering which have darkened the way. In the development of medicine, said Helmholtz, "there lies a great lesson on the true principles of scientific progress."

Pray do not fear, however, that to fulfil the meaning of the title of this address I shall describe to you the history of medicine and the history of surgery and on this double line compare and combine my researches; in the time allotted to me no such survey is possible. In the seventeenth century the handicrafts of anatomy, chemistry, and physiology so penetrated medicine that the separate influence of surgery is less easily discernible. My purpose therefore is to pass in review certain eminent features of the history of these departments of knowledge up to the end of the sixteenth century and to compare them with a view to edification; your fear will be rather that I may tell my story with the unrighteousness of a man with a moral. In his address on Morgagni at Rome in 1894 Virchow said that medicine is remarkable in its unbroken development for 25 centuries; as we may say without irreverence, from Hippocrates to Virchow himself. The great pathologist's opinion, however, seems to need severe qualification; if it be so, the stream has more than once flowed long underground. The discontinuity of medicine from Egypt to Crotona and Ionia is scarcely greater than from Galen to Avicenna; during which period, in spite of a few eminent teachers in the Byzantine Empire, it sank, in the West at any rate, into a sterile, foul, and superstitious routine.

[Professor Clifford Allbutt next dealt with Hippocrates who flourished in the fifth century B.C. and who was "in genius perhaps the greatest physician of all past time." Not only was he a physician but a surgeon and his surgical writings have commanded the admiration of such men as Pétrequin, Malgaigne, and Littré. Professor Clifford Allbutt then proceeded:—]

The chief lesson of the Hippocratic period for us is that, in practice as in honour, medicine and surgery were then one; the Greek physician had no more scruple in using his hands in the service of his brains than had Pheidias or Archimedes, and it was by this coöperation in the fifth century that the advance was achieved which in our eyes is marvellous. As we pursue the history of medicine in later times we shall see the error, the blindness, and the vanity of physicians who neglected and despised a noble handicraft. The clear eyes of the ancient Greeks perceived that an art is not liberal or illiberal by its manipulations but by its ends. As because of its ends the cleansing and solace of the lepers by St. Francis or Father Damien was a service of angels, so Hippocrates saw no baseness even in manipulations which obtained for his followers the name of coprophagi; where there is no overcoming there is no victory.

Between Hippocrates and Galen, an interval of some five centuries, flourished the great anatomical and medical schools of Alexandria. Our only important source, however, for the medicine of the Alexandrian period is Celsus who lived in the reign of Augustus. In Celsus we find that the surgical and the obstetrical sides of it had made further substantial progress. Besides the Hippocratic surgery we recognise means of treatment in piles, fistula, rodent ulcer, eczema, fractures, and luxations; the nasal passages were cauterised for ozæna, dropsies were systematically tapped, hernias were submitted to radical cure, plastic operations were undertaken, and for the first time the larger limbs were deliberately amputated, though only in extreme need and often with fatal results by secondary hæmorrhage and otherwise. How active surgery was from Celsus to Galen and how honourable and intimate a part of medicine we know from the scanty records of Archigenes of Apamea who also practised in Rome in the reign of Trajan. Galen calls him an acute but too subtle a physician. Such of his subtleties, however, as are known to us—his distinction between primary and consequential symptoms, for instance—are to his credit. He applied the ligature in amputations and Antyllus applied the method to the cure of aneurysm, which, indeed, Rufus seems to have done before him. Galen tells us where he got his "Celtic linen thread" for the purpose—namely, "at a shop in the Via Sacra between the Temple of Rome and the Forum." We learn also from Oribasius that Antyllus practised extensive resections of bone in the limbs and even in the upper and lower jaw. Galen came to Rome under Marcus Aurelius. In the biological sciences this great physician stands to Harvey as in physics Archimedes stood to Galileo and to that other great physician, William Gilbert. Galen was the first, as for many centuries he was the last, to apply the experimental method to physiology. He embraced the ancillary sciences, he opened out new routes, and he improved the old. Unhappily, his soaring genius took delight also in speculation and it was not the breadth of his science nor the depth of his methodical experiment but the height of his visionary conceits which imposed upon the Middle Ages. Galen did not himself forget the precept of Hippocrates—to look, to touch, to hear (*καὶ ἰδεῖν, καὶ θιγεῖν, καὶ ἀκοῦσαι*); but he did not wholly subdue himself—the *πεῖρα τριβική*—to this toilsome conversation with troublesome facts. Galen did not make any great mark on surgery; his tracts on the eye are lost but, so far as we know, his surgery was adopted in the main from the Alexandrians and from Soranus. However, Galen successfully resected the sternum for caries, exposing the heart; and he excised a splintered shoulder blade; moreover, with all his bent to speculative reason, we have no hint that he fell into the mediæval abyss of regarding surgery as unfit for a scholar and gentleman.[1] After Galen and Soranus medicine came to the evening of its second day, to the long night before the rise of the Arabian, Italian, and French surgeons of the twelfth, thirteenth, and fourteenth centuries.

[Professor Clifford Allbutt then showed how by the twelfth century medicine had shrunk "not into sterility only but into degradation." The wholesome discipline of practical surgery fell off and the tradition of Galen made for a plague of drugs, "which were least mischievous when merely superfluous." He proceeded:—]

Surgery saw its revenge, its bitter revenge, but in the ruin of its temple. In the thirteenth and fourteenth centuries surgery, hated and avoided by medical faculties, scorned in clerical and feudal circles, began in the hands of lowly and

1 "Lords, indeed," said Mr. Osborne, "I saw one of 'em speaking to a dam fiddler, a fellar I despise."

unlettered men to grow from a vigorous root, while inward medicine, withdrawing itself more and more from the laboratory of nature, hardened into the shell which till the seventeenth century was but a counterfeit. The surgeons of the thirteenth, fourteenth, and fifteenth centuries, reared in humble apprenticeships, not illiterate only but forbidden the very means of learning, lay under heavy disadvantages, yet such is the virtue of practical experience and technical resource that by them the reform of medicine was made. Towards the end of the fifteenth century, indeed, even this progress had slackened, soon to be reinforced, however, by new and urgent problems not of the schools but of direct rough-and-tumble with nature; of these new problems, of which Paré became the chief interpreter, syphilis and the wounds of firearms were the chief.

[Continuing, Professor Clifford Allbutt referred to Italy as leading the world in medicine from the twelfth to the eighteenth century and reminded his hearers how the Salernitan treatise, "The Glosses of the Four Masters on the Surgery of Roger and Roland," regretted the decadence of surgery. Roger, who wrote the "Practica Chirurgiæ" in 1180, used styptics, the suture, and the ligature. In his treatment of wounds he encouraged suppuration and dressed them with ointments on lint. These points, added Professor Clifford Allbutt, are notable, for "we now enter upon a controversy which, ... historically speaking, is of singular interest." He continued:—]

Hugh of Lucca was born of honourable family about the middle of the twelfth century; he served as surgeon in campaigns and was present at the siege of Damietta, but of writing he left not a line. Such vision as we have of him we owe to his loyal disciple, probably his son, the Dominican Theodoric, Bishop of Cervia, and master of Henry of Mondeville. He completed his "Surgery" in 1266, but his life was almost conterminous with the thirteenth century. What was Theodoric's message? He wrote thus: "For it is not necessary, as Roger and Roland have written, as many of their disciples teach, and as all modern surgeons profess, that pus should be generated in wounds. No error can be greater than this. Such a practice is, indeed, to hinder nature, to prolong the disease, and to prevent the conglutination and consolidation of the wound." In principle what more did Lister say than this? Henry of Mondeville made a hard fight for the new principle but the champions of Galen and suppuration won all along the line, and for five following centuries to come poultices and grease were still to be applied to fresh wounds, and tents, plastered with irritants to promote suppuration, were still to be thrust into the recesses of them, even when there was no foreign body to be discharged. If after all this erysipelas set in—well, says Henry, lay it at the door of St. Eligius!

Hugh and Theodoric for the fresh wound rejected oil as too slippery for union and poultices as too moist; they washed the wound with wine, scrupulously removing every foreign particle; then they brought the edges together, forbidding wine or anything else to remain within. Dry and adhesive surfaces were their desire. Nature, they said, produces the means of union in a viscous exudation, or natural balm, as it was afterwards called by Paracelsus, Paré, and Würtz. In older wounds they did their best to obtain union by cleansing, desiccation, and refreshing of the edges. Upon the outer surface they laid only lint steeped in wine. Powders they regarded as too desiccating, for powder shuts in decomposing matters; wine, after washing, purifying, and drying the raw surfaces, evaporates. The quick, shrewd, and rational observation and the independent spirit of Theodoric I would gladly illustrate further did time permit. In passing, I may say that he was the first to notice salivation as the result of administration of mercury in "skin diseases."

Both for his own merits and as the master of Lanfranc, William Salicet was eminent among the great Italian physicians of the latter half of the thirteenth century. Distinguished in surgery, both as practitioner and author, he was also one of the protestants of the period against the division of the craft from inner medicine—a division which he justly regarded as a withdrawal of medicine from its intimacy with nature. Like Lanfranc and all the great surgeons of the Italian tradition, and unlike Franco and Paré, he had the advantage of the liberal university education of Italy, but, like Paré and Würtz, he had large practical experience in camp, hospital, and prison. His "Surgery" contains many case histories. He discovered that dropsy may be due to a "durities renum"; he substituted the knife for the abuse of the cautery by the followers of the Arabs; he pursued the investigation of the causes of the failure of healing by first intention; he described the danger of wounds of the neck; he forwarded the diagnosis of suppurative disease of the hip; and he referred chancre and gangrene to "coitus cum meretrice." The "Chirurgia Magna" of Lanfranc of Milan and Paris, published in 1295-96, was a great work written by a reverent but independent follower of Salicet. He distinguished between venous and arterial hæmorrhage, and generally used styptics (rabbit's fur, aloes, and white of egg was a popular styptic in elder surgery), though in severe cases ligature. Learned man as he was, Lanfranc saw the more clearly the danger of separating surgery from medicine. "Good God!" he exclaims, "why this abandoning of operations by physicians to lay persons, disdaining surgery, as I perceive, because they do not know how to operate ..... an abuse which has reached such a point that the vulgar begin to think the same man cannot know medicine and surgery ..... I say, however, that no man can be a good physician who has no knowledge of operative surgery; a knowledge of both branches is essential" ("Chirurgia Magna").

Henry of Mondeville, of whom we hear first in 1301 as surgeon to Philip the Fair, was for the most part a loyal disciple of Lanfranc, and, aided as it would seem by Jean Pitard, also surgeon to the King, attempted for wounds to introduce the new methods of Hugh and Theodoric; for his pains he exposed himself to bad language, threats and perils; and "had it not been for Truch and Charles of Valois," to far worse things. So he warns the young and poor surgeon not to plough the sand, but to prefer complaisance to truth and ease to new ideas. I may summarise briefly the teaching of Henry on the cardinal features of the new method: Wash the wound scrupulously from all foreign matter; use no probes, no tents—except in special circumstances; no oily or irritant applications; avoid the formation of pus, which is not a stage of healing but a complication; do not, as Galen teaches, allow the wound to bleed with the notion of preventing inflammation, for you will only weaken the patient's vitality (virtus), give him two diseases instead of one, and foster secondary hæmorrhage; distinguish between oozing hæmorrhage, hæmorrhage by jets, and that which pumps out of an inward wound, using for the first styptics and for the last two the cautery, or, where practicable, digital compression for not less than a full hour; when your dressings have been carefully made do not interfere with them for some days; keep the air out, for a wound left in contact with the air suppurates; however, should pain and heat arise open and wash out again, or even a poultice may be necessary, but do not pull your dressings about; nature works better alone, if first intention fail she may succeed in the second, as a jeweller, if he can solder gold to gold does so, if not, he has to take to borax; these resources, however, we learn well, not by arguing, but by operating. By the new method you will have no stinks, shorter convalescence, and clean thin scars. When using the word nature he freely admits that the word is an equivocal one, but he would speak of her allegorically as a lute-player to whose melodies the physician has to dance. "Every simple wound will heal without any notable quantity of pus, if treated on Theodoric's and my instructions. Avoid every cause of formation of pus, such as irritating applications, exposure, high diet, œdema, local plethora. Many more surgeons know how to cause suppuration than how to heal a wound." Now let me remind you that until Hugh of Lucca the universal doctrine was that suppuration or coction is necessary, and that if it does not set in it must be provoked.

The greatest of the French surgeons before Paré was Guy of Chauliac, who flourished in the second half of the fourteenth century. He studied in letters and medicine at Toulouse and Montpellier, in anatomy at Bologna. The surgeon ignorant of anatomy, he says, "carves the human body as a blind man carves wood." The Arabs and Paris said: Why dissect if you trust Galen? But the Italian physicians insisted on verification. Guy was called to Avignon by Clement VI. During the plague of 1348 he stayed to minister to the victims and did not himself escape an attack, in which he was ill for six weeks. His description of this epidemic is terrible in its naked simplicity. He gave succour also in the visitation of 1360. His "Chirurgia Magna" I have studied carefully and do not wonder that Fallopius compared the author to Hippocrates and that John Freind calls him the prince of surgeons. The

work is rich, aphoristic, orderly, and precise. Guy was a more adventurous surgeon than Lanfranc, as was Franco, a later Provençal, than Paré. He did not cut for stone but he operated for radical cure of hernia and for cataract—operations till his time left wholly to the wayfaring specialists. In Guy the critical spirit was awake. He scorns the physicians of his day "who followed each other like cranes, whether for love or fear he would not say." In respect of principles, however, Guy was not infallible. Too sedulous a disciple of Galen, he was as a deaf adder to the new message of Hugh, Theodoric, and Henry, and not only was he deaf himself but, as the authoritative master of the early renascence, he closed the ears of his brethren even to the day of Lister.

In the midst of the mainly Arabist professors of medicine of the fifteenth century arose Benivieni, the forerunner of Morgagni and one of the greatest physicians of the late Middle Ages. This distinguished man, who was born in 1448 and died in 1502, was not a professor but a doctor of medicine, a man of culture and an eminent practitioner in Florence. Although born in the new platonism he was, like Mondeville, one of those fresh and independent observers who surrender to no authority, to Arab nor Greek. Yet for us Benivieni's fame is far more than all this, for he was the founder of the craft of pathological anatomy. So far as I know he was the first to make the custom and to declare the need of necropsy to reveal what he called not exactly "the secret causes" but the hidden causes of diseases. Before Vesalius, Eustachius, or Fallopius were born, deliberately and clearsightedly he opened the bodies of the dead as keenly as any pathologist in the spacious times of Morgagni, Haller, or Senac, or of Hunter, Baillie, and Bright. Among his pathological reports are morbus coxæ (two cases), biliary calculus (two cases), abscess of the mesentery, thrombosis of the mesenteric vessels, stenosis of the intestine, "polypus" of the heart, scirrhus of the pylorus, and ruptured bowel (two cases). He gives a good description of senile gangrene.

It would be unjust to forget that in the latter half of the fifteenth century Paris admitted some reforms; celibacy for physicians was abolished and with it diminished the allurements of prebends and rectories and the pernicious practice of the "médecins reclus," who did not visit patients nor even see them but received visits from ambassadors who brought gifts and vessels of urine and carried back answers far more presumptuous than that wise counsel of Falstaff's physician. Still, not only was reform in Paris very grudging but it was capriciously favoured and thwarted by the French Court. The Faculty denied to St. Come "esoteric" teaching, diagnosis, and the use of medical therapeutics—a jealousy which ended in the physician being requested to do little more than write the prescription. Aristotle was quoted as unfavourable to the "vulgarising of science." Joubert was attacked for editing Guy in the vernacular. Fortunately, the surgeons were carried into the field of battle—a far better school than the Paris Faculty. Thus it was that in the opening of that great century in the history of the human mind, the sixteenth century, we find Italian medicine still in the van until the birth of the great French surgeons, Franco and Paré, and of Gersdorff and Würtz of Germany.

Franco, like Paré, was no clerk; he came of a class lower even than that of Paré and the barbers—the wayfaring class of bonesetters, oculists, plastic operators, and cutters for stone and hernia. These dangerous ventral operations and those on the eye which but too often were swiftly disastrous fell into the hands of wandering craftsmen, men usually of low origin, ignorant, reckless, and rapacious. As the truss was a very clumsy instrument, at any rate till the end of the seventeenth century, the radical cure of hernia was in great demand. It is not the least of the merits of Franco that he brought these operations within the lines of responsible surgery and thrust them into the ken of Paré and Fabricius. This illustrious Provençal surgeon—"ce beau génie chirurgical," as Malgaigne calls him, in declining the task of entering upon so full a life—was born about 1503. He began as an apprentice to an operating barber and to a hernia specialist. He had no more "education" than Paré or Würtz, and he was spared the misfortune of a speculative intellect. He picked up some anatomy, educated himself by observation, experience and manipulation, and as a simple operator or "master" won considerable renown. As upright and modest as Paré, though he never attained Paré's high social position, he submitted to call in the physician and took his quiet revenge in the remark that the physicians did not know enough to distinguish good surgery from bad. Nicaise says roundly: "No surgeon made such discoveries as Franco. For hernia, stone, and cataract he did much more than Paré." Whether from incapacity or the brutality of habit it had been the custom during the Middle Ages and down even to the middle of the seventeenth century in operating for hernia to sacrifice one or even both testicles—an abuse against which Franco took successful precautions, for he proved that the canal could be closed and the ring sutured without castration. In irreducible inguinal hernia he distinguishes between opening and not opening the sac and describes adhesions of sac and intestine. From him, indeed, dates the rational operation for strangulated hernia and in strangulated scrotal hernia he founded the method. Paré and after him Petit condemned the ablation of the testicle, which procedure, however, many surgeons thought quite good enough for priests, and Paré gives credit to Franco for these advances, though Fabricius does not even mention them.

The very eminence of Ambrose Paré encourages, if it does not command, me to be content with a few words of commemoration. Himself of humble origin, he won for surgery in France a social place and respect it had never attained before. Born in 1517, he became a barber's apprentice in the Hôtel Dieu, whence he followed the campaign of Francis I. against Charles V. As he could not write a Latin treatise his admission to St. Come was of course opposed by the faculty, but Paré stoutly declared that the vernacular tongue was essential to the progress of medicine. Riolan the elder, who had taken part in the opposition, wrote a tract on the other side in 1577 with the following insolent title: "Ad impudentiam quorundam Chirurgorum qui medicis aequari et chirurgiam publicè profitere volunt pro dignitate veteri medicinae apologia philosophica." Now at this time Paré was 60 years of age and surgeon to the King. If, in comparison with Paré, Haeser treats Franco somewhat slightly, and if in some respects Paré may not be lifted far above his great Italian contemporaries, such as Maggi, Carpi, or Botallo, yet taken all round the founder of modern surgery surely surpasses all the physicians of his time as an independent, original, and inventive genius, and as a gentle, masterly, and true man.

Yet I am often surprised to see, even to-day, the invention of ligature of arteries attributed to Paré, whose surprise, if our journals have an astral shape, must be greater still, seeing that he himself refers the ligature to Galen. The attribution is, of course, a legend. Malgaigne discreetly claims no more for Paré than the application of the ligature from wound surgery to amputations, but in my opinion even this claim goes beyond the truth of history. Celsus speaks of the ligature as an ordinary method in wounds; from Oribasius we learn that Archigenes of Apamea even tied vessels in amputation after fixing a tight band at the root of the limb. It seems probable, indeed, that unless the application of a ligature were performed with modern nicety secondary hæmorrhage must have been frequent; indeed, in 1773 Petit deliberately discarded the ligature as Franco and Fabricius had done before him. Military surgeons considered even Paré's "ligature en masse" as too delicate a method for the battlefield. It is a more intelligent service to a great man to point out that the ligature and other operative details were no mere incidents but steps in a large reform of method in amputation, a reform made imperative by the ravages of fire-arms, which could not be covered up with galenisms.

To turn to Germany: Paracelsus (born 1491) was a surgeon and no inconsiderable one. Had this extraordinary man been endowed with a little patience he would have been a leader in wound surgery; though, like Würtz, he was not an operator. He pointed out not only the abuse of the suture by the surgeons of the day, but also that suppuration is bad healing; for if left to herself, nature heals wounds by "a natural balm," a phrase which Paré adopted. In his "Grosse Wundarznei" he says he began at the surgical because it is the most certain part of medicine, and time after time he rebukes those who withdraw medicine from surgery. Brunschwig was the first surgeon to write upon the surgery of gunshot wounds with any fulness or precision. He held, as Vigo after him, that a gunshot wound was a poisoned wound and, to eliminate the poison by free suppuration, used the medicated tents, or, in case of through penetration, the setons which were to arouse the angry antagonism of Würtz. Felix Würtz, like Franco

and Paré, had the good fortune to escape a scholastic education; he was lucky enough, however, to enjoy the liberal education of Gesner's friendship and to listen to the fiery disputes of Paracelsus. Gifted with an independent and penetrating mind, he is as fresh and racy as Henry of Mondeville had genius enough to be in spite of the schools. Like all his compatriots he wrote in the vernacular, and for its originality and conciseness Würtz's "Practica," published in 1563, stands in a very small company. Had he known as much anatomy as Paré, his defect in which he bewails, he might have been as great a man, for his clinical advances were both new and important. He protests against the kind of examinations for practice held in some cities where candidates patter off cut-and-dried phrases like parrots, while apprentices "play upon the old fiddle the old tune continually." By setting his face against cataplasms and grease he made for progress, though neither he nor Paré attacked suppuration in principle as Theoderic and Henry had done. His chief title to fame, a fame far less ripe, of course, than that of Sydenham, but, as it seems to me, not unworthy to be remembered beside it, lies in his clinical acumen and especially in his conception of wound infections and their results. His description of diphtheria is especially remarkable.

England, if by England we mean no more than the Isles of Britain, makes no great show in mediæval or renascence surgery. Arderne was probably a far better surgeon than Gilbert or John of Gaddesden, but he is little more than a name. Nor does it do to peruse Thomas Gale (1507–1586?) after Mondeville, Guy, Paré, Würtz, or Maggi. Gale's merit lies mainly in the chapter on the "Wounds made by Gonneshot" in the third part of his "Surgery," as he also withstood "the gross error of Jerome Brunswicke and John of Vigo, that they make the wound venomous."

With the sixteenth century my survey must end; from this time medicine entered upon a new life, upon a new surgery founded on a new anatomy and on a new physiology of the circulation of the blood and lymph. These sciences, thus renewed, not only served surgery directly but by the pervading influence of the new accuracy of observation also indirectly modified the traditional doctrines of physicians unversed in methods of research, as we observe in the objective clinical medicine of Sydenham. Our physiologists tell us that destruction is easy, construction difficult; but in the history of medical dogma this truth finds little illustration. So impatient is the speculative intellect of the yoke of inductive research, so tenacious is it of its castles in the air, that no sooner did Harvey, by revealing the mechanics of the circulation, sap the doctrines of the schools, than some physicians instantly set to work to run up the scheme of iatro-physics, others to build a system of iatro-chemics, but upon von Helmont rather than on Willis and Mayow, while Hoffmann and his school resuscitated the *strictum* and *laxum* syllogisms of the Greek methodists.

In this sketch of the past, a sketch necessarily indiscriminate but not, I trust, indiscreet, we have seen that up to the time of Avicenna medicine was one and undivided; that surgery was regarded truly not as a department of disease but as an alternative treatment of any disease which the physician could reach with his hands; that the cleavage of medicine, not by some natural and essential division but by paltering to false pride and conceit, let the blood run out of both its moieties; that certain diseases thus cut adrift, being nourished only on the wind, dried into mummy or wasted in an atrophy, and that such was medicine; while the diseases which were on the side of the roots, if they lost something of their upper sap, were fed from below, and that such was surgery. Thus the physicians who were cut off from the life-giving earth, being filled with husks and dust, became themselves stark and fantastic. Broadly speaking, until the seventeenth century pathology was a factitious schedule and medicine a farrago of receipts, most of them nauseous, many of them filthy, most of them directly mischievous, all of them indirectly mischievous as tokens of a false notion of therapy. This is the truth I have tried to get home to you; that in the truncation of medicine the physician lost not only nor chiefly a potent means of treatment, he lost thereby a method; he lost touch with things, he deprived his brains of the coöperation of the subtlest machine in the world—the human hand—a machine which does far more than manufacture, which returns its benefits on the maker with usury, blessing both him that takes and him that gives. Pure thought, for its own sake, especially in early life, when the temptation to it is strong and experience small, seems so disinterested, so aloof from temptation of gain, that in the history of ideas speculation and the construction of speculative systems have played but too great a part and have occupied but too many minds of eminent capacity.

In the minds of academical teachers the notion still survives that the theoretical or university form and the practical or technical form of a profession or trade may not only be regarded separately and taught in some distinction—which may be true—but in independence of each other; nay, that the intrusion of the technical quality by materialising degrades the purity or liberality of the theoretical—that, indeed, if he have not to get his daily bread the high-minded student may do well to let the shop severely alone. Thus the university is prone to make of education thought without hands; the technical school hands without thought; each fighting shy of the other. But if in a liberal training the sciences must be taught whereby the crafts are interpreted, economised, and developed, no less do the crafts, by finding ever-new problems and tests for the sciences, inseminate and inform the sciences, as in our day physics are fertilised by the fine craft of such men as Helmholtz, Stokes, Rayleigh, and Kelvin, and biology by Virchow, Pasteur, and Lister. At the commemoration of Stokes in Westminster Abbey Lord Kelvin honoured in him the combination of technical skill with intuition; and Lord Rayleigh admired in him the reciprocity of accurate workmanship and instinctive genius. If it be true, as I have been told, that the University of Birmingham has a coal mine upon the premises I am ready to believe that the craft of coal-getting by carrying practice into thought will fortify the web of theory. There exists no doubt the contrary danger of reducing education to the narrow ideas and stationary habits of the mere artisan. By stereotyped methods the shopmaster who does not see beyond his nose may cramp the prentice and the prentice becomes shopmaster in his turn. If in the feudal times, and times like them in this respect, manual craft was despised and the whole reason of man was driven into the attenuated spray of abstract ingenuity, in other times or parts of society a heavy plod of manual habit so thickened "the nimble spirits in the arteries" that man was little better than a beaver; on the one side matter, gross and blockish; on the other speculation vacuous of all touch of nature. We need the elevation, the breadth, the imagination which universities create and foster; but in universities we need also bridges in every parish between the provinces of craft and thought. Our purpose must be to obtain the blend of craft and thought which on the one hand delivers us from a creeping empiricism and on the other from exorbitant ratiocinations. That for the progress and advantage of knowledge the polar activities of sense and thought should find a fair balance is eminent in great examples of mankind. Moreover, it is apprehended in the reciprocal tensions of faith and works, of hypothesis and experience, of science and craft. In our controversies on theory and practice, on universities and technical schools, on grammar and apprenticeship, we see their opposite stresses. The unison is far from being, as too often we suppose, one merely of wind and helm, it is one rather of wind and wing; it consists not in a mere obedience of hand to mind but in some mutual implication or generative conjugation of them. How these two forms of impulse should live in each other we see in the fine arts—in the swift confederacy of hand and mind in Durer, Michael Angelo, Rembrandt, Velasquez, Watteau, and Reynolds. The infinite delicacy of educated touch is almost more incredible than the compass of imagination. When they unite in mutual creation no shadow is too fleeting, no line too exquisite for their common engagement and mutual reinforcement. Michael Angelo and Leonardo da Vinci, the greatest craftsmen, perhaps, the world has seen, were as skilful to invent a water engine, to anatomise a plant, or to make a stone-cutter's saw, as to build the dome of St. Peter above the clouds of Christendom.

Solve the problem as hereafter we may, now we can take heed at least that energy shall not accumulate about one pole or the other. Our little children have a message to us if we would but hearken to them. Every moment they are translating action into thought and thought into action. Eye, ear, and hand are incessantly on the watch and in pursuit, gathering incessantly for the mind the forms of thought which as rapidly issue again in new activities. If, as we mature, we gain the power of restraint, it is not that we

shall cease to act, that the mind shall depose the hand, but that these variables shall issue in a richer and richer function. If we forget the hand, that cunning loom which wove our minds, if we thrust our hands into our pockets, and turn our eyes inwards, will our minds still truly grow? That by virtue of the opposable thumb monkey became man is no metaphor, in its measure it is sober truth. For the last millennium too much thinking has been the bane of our profession; we have made it a point of honour to ignore the hands out of which we were fashioned and in this false honour to forget that the end of life is action and that only by action is action bred. While we are professing to admire Bernard Palissy or Jean Goujon, the mediæval mason or the mediæval goldsmith, we are still acting as if fine arts only are fine and the mechanical arts base, whereby we blind ourselves to the common laws of growth which know not these distinctions and bring barrenness on those who make them. We wean our children from the life of imaginative eyes and of thoughtful fingers; instead of teaching them to rise from simple crafts to practical crafts, to scientific crafts or to lovely crafts, and thus to pursue the mean of nature herself, we teach them the insolence that, except in sport, the mind should drop the acquaintance of the fingers. Shall we wonder, then, that in this generation bold men call English people stupid, all stupid save those few men of genius or rich talent who, like Gilbert, Harvey, or Darwin, were great enough to be true to eye and to hand and to breed great conceptions by their intimate coition with the mind Shall we wonder that medicine fell into sterility when by most unnatural bonds surgery, her scientific arm, was tied behind her and her sight was turned inwards from processes to formulas? Shall we wonder that even in the eighteenth century, when medicine had begun to occupy itself in the crafts of pathology and chemistry, one visionary after another, striding in long procession athwart the barren wilderness of physic, wasted his generation in squeamish evasion of the things that happen and in vain pursuit of vacuous unities. Yet if to the high stomachs of our forefathers surgical dabblings were common and unclean, there remained still some eyes curious enough and some fingers dexterous enough to carry the art back to the skill of Hippocrates, and forward to the skill of Lister, and by the mouths of barbers and cutters rather than of the pharisees of the colleges Medicine breathed her lowly message to her children.

A CASE OF SACCULATED ANEURYSM OF THE ARCH OF THE AORTA,

TREATED BY THE INTRODUCTION OF SILVER WIRE AND BY THE PASSAGE OF AN ELECTROLYTIC CURRENT.

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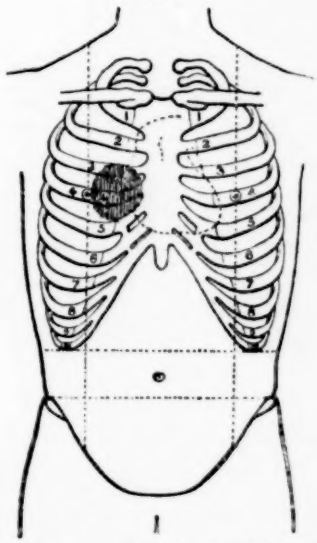
THE patient, a labourer, aged 44 years, was admitted into the Norfolk and Norwich Hospital on Feb. 9th, 1901, under the care of my colleague, Dr. S. H. Long. For 18 months he had suffered from a gnawing pain in the front of the chest on the right side and from time to time this pain would shoot through to the right scapular region. It had always been worse after exertion. For a few weeks he had been troubled by a cough with some expectoration but without hæmoptysis and had been forced to give up work one month before coming into hospital. A history of syphilis could not be obtained.

On admission the patient was pale, a little cyanosed and dyspnœic, and complained of pain in the front of the chest. The left pupil was larger than was the right. The pulse at the right wrist was much smaller than was that at the left but the beats were synchronous and 64 to the minute; tension was low and the carotid arteries pulsated visibly. There was a bulging of the chest wall on the right side of the sternum involving the third and fourth costal cartilages from their sternal joints outwards for a distance of three inches. (See Fig. 1.) There were well-marked expansile pulsation, a loud rough double murmur over the tumour, and a heaving impulse all over the præcordium. The patient improved considerably under medical treatment and left the hospital at the end of April, 1901.

In August of the same year he was re-admitted, having worked for one month in the interval, but had been obliged again to stop work on account of increasing pain over the tumour and dyspnœa. The cardiac impulse was widely

FIG. 1.



The shaded area shows the position of the bulging of the chest wall.

diffused and its maximum point was just outside the left nipple line. The bulging of the chest wall was greater; it extended downwards as far as the fifth space and was encroaching on the sternum. The pulsation was more forcible. There was some diminution in air entry in the upper half of the right lung. He stayed in the hospital for two months.

In August, 1902, ten months later, the patient was again admitted by reason of the severity of the symptoms. The pain travelled down the right arm to the wrist. The tumour was now five inches in diameter and the point of maximum cardiac impulse was in the sixth space, half an inch outside the nipple line. The respirations were 30 to the minute and laboured. In view of the fact that the aneurysm was increasing in size, notwithstanding complete rest, dieting, and the usual medicinal treatment, and that the pain was becoming unbearable, in spite of frequent administrations of morphine, the following operation was performed on Oct. 23rd.

The skin over the aneurysm was rendered anæsthetic with eucaine and a fine hollow needle, which just permitted No. 9 silver wire to pass through it and which was insulated on its outer surface by a coating of shellac, was introduced for a distance of three inches into the fourth right intercostal space one inch from the border of the sternum. After the needle had penetrated less than one inch blood spurted through it to a height of over one foot. Eight feet of silver wire were then passed slowly through the needle into the aneurysmal sac. This wire had been previously wound round a towel, rolled into the form of a cylinder two and a half inches in diameter, and the wire and towel had then been boiled. The wire was passed directly from the towel into the hollow needle, with the idea that when the wire entered the aneurysmal cavity it would resume the coiled form that it possessed when on the towel. This resumption of form did actually take place when the wire thus coiled was passed experimentally through the needle before the operation. The introduction of the wire took seven minutes and during this period there was some irregularity in both the rhythm and force of the pulse at the wrist, but the patient made no complaint. A constant

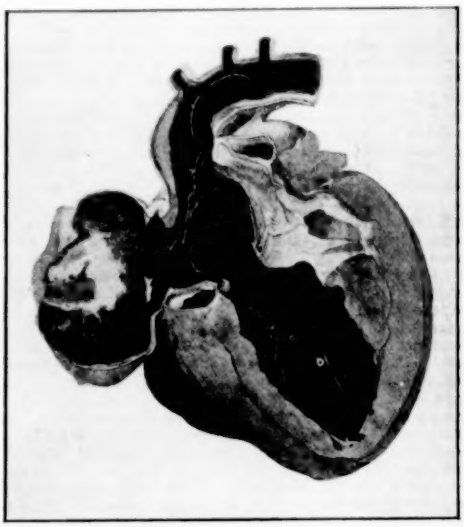
current, obtained from the main supply circulating in the hospital with the interposition of a suitable resistance, was then passed into the aneurysm for the space of 45 minutes, the end of the wire projecting through the hollow needle being connected with the positive pole and a large flat electrode applied to the thigh being used as the negative pole. For the first 15 minutes the measure of the current was five volts, 24 milliampères; for the next 20 minutes ten volts, 42 milliampères; and for the last ten minutes five volts, 28 milliampères. Ten minutes after the commencement of the electrolysis the irregularity of the pulse produced by the introduction of the wire disappeared and the beat resumed its former rhythm. The current being turned off, the end of the silver wire was pushed through the needle into the aneurysm and the needle was withdrawn. The puncture was sealed with gauze and collodion. After the needle had been withdrawn the area round the puncture became distinctly prominent, the site of the small operation forming the apex of the prominence. Some leakage from the aneurysm into the surrounding tissues had evidently occurred at this spot. Throughout the operation the patient experienced no pain and during the greater part of the time the heart's action was quite regular. About a quarter of an hour after withdrawing the needle he complained of feeling faint, turned very pale, and sweated profusely; the pulse became very feeble and irregular and the rate fell from 96 to 50 per minute. He vomited several times. The condition improved with the administration of hypodermic injections of strychnine but it was thought prudent to leave him lying on the operation table for a couple of hours before moving him to the ward. At the close of the operation there was no diminution in the pulsation in the aneurysm.

For the ensuing three weeks the pain over the aneurysm varied considerably and from time to time it was necessary to use morphine to relieve it. The swelling remained about the same and some tenderness and œdema persisted around the puncture. At the end of four weeks, however, a decided diminution in the swelling and pulsation was manifested; the pain became much less, so that the morphine was discontinued and the patient was able to get up. From this time until his discharge in February, 1903, three months later, the tumour gradually diminished in size and the pulsation was less forcible. The aneurysm felt much firmer and was evidently consolidating. The patient was up and about all day, was free from pain, and slept comfortably at night. A skiagram showed very clearly the position of the aneurysm with the wire *in situ*.

In May and June of 1903 the patient suffered from sudden attacks of dyspnœa coming on without obvious cause. He came into the hospital for a few weeks and was relieved. On August 6th he was again admitted in great respiratory distress. The respirations were 44 to the minute and he was expectorating blood-stained mucus; he was very pale and was sweating profusely; the temperature was normal. There was œdema of the lungs, of the abdominal wall, and of both legs, and the circulation was evidently failing. The aneurysm was not so prominent as it formerly had been; it felt more solid and there was less pulsation in it. The patient died on August 11th, nearly ten months from the date of his operation.

At the necropsy there were one or two pints of ascitic fluid found in the peritoneum. There was a typical "nutmeg" liver. The spleen was small and firm. The kidneys showed evidences of old emboli. The third, fourth, and fifth right costal cartilages and the adjacent portion of the sternum were bulged forwards by the pressure of the aneurysm and were thinned in places. There were no pleural adhesions but there was a pint of serum in the right pleural cavity, though there was none in the left. The lungs were very œdematous and a recent infarct two inches in diameter was found in the middle lobe of the right lung. The base of the left lung was collapsed. The trachea and bronchi contained frothy fluid and the mucous membrane was very injected. The pericardium was universally adherent and the heart was greatly hypertrophied. Growing from the first part of the arch of the aorta was a sacculated aneurysm four inches in diameter and filled with decolourised clot, in which the silver wire was coiled up in various directions. Loops of wire imbedded in dark post-mortem clot passed also along the arch of the aorta as far as the origin of the left common carotid artery and down to the bottom of the left ventricle. The end of the wire first inserted was seen in the cavity of the ventricle. The aortic valves showed very little disease but there was much atheroma of the aorta as far as its bifurcation. (See Fig. 2.)

FIG. 2.



This is a reproduction of a photograph of a coloured drawing of the dissected specimen. The arch of the aorta and the left ventricle have been laid open and the pulmonary artery has been cut across. The grooves on the surface of the aneurysm were produced by the ribs in front of it. A portion of the wall of the aneurysm has been removed and there is seen the firm partially decolourised clot filling the cavity. The coils of wire reaching from the left common carotid artery to the apex of the ventricle are very evident and other coils are buried in the clot in the aneurysm. The end of the wire first introduced can be seen about the middle of the ventricle at the margin of the dark coagulum. The other end of the wire is projecting from the surface of the aneurysm.

The publication by Dr. R. C. B. Maunsell[1] of a case of abdominal aneurysm treated by the introduction of silver wire and by the passage through the wire of an electrolytic current has induced me to record this additional case. During the introduction of the wire I believed that it was coiling up within the aneurysm and must confess that I should have been not a little anxious if I had known that it was passing along the arch of the aorta and invading the cavity of the ventricle. It is remarkable that the primary circulatory disturbance, as a result of the untoward wanderings of the wire, was so slight and that the foreign body in the heart was tolerated so readily and for so long a period. It is probable that an unnecessary length of wire for an aneurysm of this size was used and that four feet instead of eight might have been sufficient. Those cases in which the amount of wire introduced has been very large do not appear to have been the most successful. The feeble tendency possessed by a coil of silver wire when wound on a cylinder to resume its original form when unwound is a disadvantage, and on this ground the proposal by D'Arcy Power and Colt to introduce a wisp of 30 steel wires, the ends of the wires at one extremity of the wisp being soldered together, commends itself.[2] As the wisp passes into the sac of the aneurysm from the fine tube through which it is introduced the free ends of the wires separate and the wisp assumes the form of a cage. Indeed, I believe it would have been difficult to find a more suitable case than the one now recorded for a trial of the method suggested by D'Arcy Power and Colt. The wires composing the wisp would have spread out within the aneurysm and there would have been no tendency for them to pass beyond the limits of the sac. In the hope of obtaining a more speedy and more extensive coagulation it would be well, however, to pass a galvanic current

[1] Brit. Med. Jour., June 18th, 1904.

[2] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxvi.

through the wires after their insertion into the sac. It is stated that Corradi was the first to adopt this method. In 1879 he introduced into an aneurysm of the ascending aorta 17 inches of annealed wire and passed a current through it for 25 minutes. It would appear that in my case the presence of the wire in the midst of the eddying currents in the aneurysm, combined with the use of the electrolysis, was sufficient to bring about a firm coagulation right through the sac, but that these two factors did not suffice to produce clotting in the rapid and direct blood flow in the aorta and ventricle.

The operation in the case which I have recorded resulted in great relief to the more distressing symptoms of the disease and the patient was able to pass the last ten months of his life in comparative comfort.

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A CASE OF BANTI'S DISEASE.

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THE patient, a married woman, aged 46 years, was first seen during the evening of April 10th, 1903. She had had a fall which had brought on severe epistaxis. The hæmorrhage continued slowly for several hours and only stopped on plugging the anterior and posterior nares. A condition of extreme anæmia and a prominent abdomen, which was found to be due to an enlarged spleen, at once attracted attention. She first became aware of this splenic enlargement about a fortnight after her last confinement which took place in May, 1898. She thought that a "lump" which she could feel in her abdomen was "something that had been left behind at the confinement." This "lump" her medical man (Dr. S.'s predecessor) found to be an enlarged spleen. At this confinement there was a very large amount of liquor amnii and although the vertex presented normally and the labour was easy the child was born dead—"drowned," the midwife said. Up to this time she had been very full-blooded but she gradually grew paler and paler as the spleen increased in size. Her only previous illness was an attack of rheumatic fever when she was 25 years old. There was no history or sign of syphilis. She was not an alcoholic and had never had malaria. She said she had always had leucorrhœa. Altogether she had 11 children, eight of whom were now living. She had had no miscarriages. Her family history was good; both parents were still alive and over 70 years of age. When first seen the shrivelled skin had no red tint; its colour resembled somewhat that seen in cancerous cachexia. Pigmentation was excessive. Although there were so much wasting and muscular atrophy that she looked just "skin and bone" she had managed to help a little with the housework up to the beginning of the year. The large abdomen made her appear as though she were far advanced in pregnancy. The spleen was tender on palpation and was enormously enlarged. It bulged out the three lowest left ribs, reached almost to Poupart's ligament, and extended across into the right half of the abdomen. Its surface was smooth and even and its consistence firm. The liver was only slightly enlarged and tender. There were no ascites and no œdema of any part of the body. The lymphatic glands were not enlarged. The heart's action was feeble. Dyspnœa occurred at times. There was no palpitation. In the neck there were a hæmic murmur and a marked systolic venous pulsation. The pulse was weak, easily compressible, and varied from 100 to 110 per minute. An examination of the blood showed 2,830,000 erythrocytes, 4640 leucocytes, and hæmoglobin 36 per cent. The erythrocytes were normal in shape. She had false teeth, all her own having been extracted long ago. Her tongue was furred and her breath was very offensive. Her appetite was very poor and her digestion was weak. She lived mainly on "Force." She was always very thirsty. Constipation was the general rule but sometimes she had very offensive diarrhœa. Melæna was noticed only a few times. The respirations were slightly increased in number but the lungs were normal. The urine was scanty and always contained a plentiful supply of urates. Leucorrhœa was present. For treatment she had iron and arsenic in various forms but she was not benefited. As the disease advanced she complained greatly of pain over the spleen, but especially over the bulging ribs, and of great shortness of breath. She became very restless, had constant headaches, and slept badly. The liver increased in size, she became slightly jaundiced, and bile pigments were found in the urine. Then ascites and œdema of the legs and abdominal wall occurred. A blood examination a few days before her death showed: erythrocytes, 1,140,000; leucocytes, 3200; and hæmoglobin, 20 per cent.; poikilocytosis was also present. The restlessness increased and she finally attempted to cut her throat with a carving knife but she had not the strength to get through the skin. She died from exhaustion on Sept. 22nd, 1903. The course of the disease had been a very gradual one, the woman having lived over five years after the splenic enlargement had been detected.

A post-mortem examination was made a few hours after death, with permission to examine the thorax and abdomen only. The abdominal cavity was first tapped and 32 pints of ascitic fluid were drawn off. The viscera and tissues were very pale and the blood was like coloured serum. The spleen, which was enormously enlarged, was 14 inches long, 8 inches across the widest part, and weighed 9 pounds (Fig. 1). There were firm adhesions connecting it with surrounding organs. The surface was smooth and even and the consistence firm. On section it was deep-red in colour and the fibrous tissue stroma was seen to be increased very much (Fig. 2). In many places there were patches of cicatricial tissue which had the appearance of infarcts. The capsule was much thickened, markedly so in parts. The liver was enlarged, yellowish-brown in colour, and its surface was smooth. On section the lobules were seen distinctly marked out. The stomach walls were extremely thin and very pale but showed no trace of erosions. The lymphatic glands were not enlarged and the bone marrow appeared to be normal. The other organs were apparently normal. Bacteriological examinations of the blood taken before and after death gave negative results.

FIG. 1.

Showing the spleen in its longest diameter.

Note on the histology of the liver and spleen by Dr. ANDERTON.—Spleen: The capsule showed a very well-marked increase of thickness due to fibrous tissue. There was a moderately well-developed overgrowth of fibrous tissue stroma throughout the section; the nuclei were elongated and numerous. At one part there was a massive overgrowth of fibrous tissue resembling cicatricial tissue and containing few oval nuclei. There was a distinct overgrowth of fibrous tissue round the arteries. The Malpighian bodies were markedly diminished in number and size and many appeared to be replaced completely by fibrous tissue arranged in the form of round dense nodules. The lymphoid cells were fewer than normal. Very few red blood corpuscles were seen. Numerous minute granules of black pigment

were widely diffused but were more abundant in the overgrowth of fibrous tissue than elsewhere. No fat granules were found even inside the mass of fibrous tissue. There was no iron reaction. Liver: There was a very great increase of fibrous tissue throughout the entire section—as a whole it was highly cellular. The overgrowth was noticed round the portal vessel but it did not extend as a band round each lobule; it was, however, very markedly intercellular with corresponding disorganisation of the lobule—in this respect some lobules were much more affected than others but the

FIG. 2.

The spleen in section, showing increase of fibrous tissue.

change was apparent throughout. Here and there were small and ill-defined infiltrations of small round cells. The liver cells were smaller than normal; they were separated and distorted by the pericellular fibrosis. Their protoplasm had a muddy appearance and (by staining) showed a moderate degree of fatty change not confined to any special portion of the lobule. There were a large number of pigment granules. The bile ducts were normal; they appeared to be somewhat unusually abundant in places where the portal fibrosis was most marked and least cellular. The hepatic arteries were normal. Iron reaction was very slight. Spleen and liver: There was no reaction with iodine or methyl-violet. No signs of bacteria were revealed by Löffler's or Gram's stains.

THE MEDICAL TREATMENT OF DEEP-SEATED HÆMORRHAGE.

By FRANCIS HARE, M.D.,

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IN THE LANCET of August 20th, 1904, p. 522, I contributed a paper on the above subject and referred to four cases of hæmoptysis in which the bleeding had been stopped instantaneously, or practically so, by the inhalation of amyl nitrite. Since writing that paper the following four additional cases have occurred.

CASE 1.—An unmarried woman, aged 26 years, a phthisical patient in the Diamantina Hospital with excavation at both apices, had suffered from many attacks of hæmoptysis, some of which were very profuse and most of which were succeeded by exaggerated temperature and indications of pneumonia. She was especially liable to bleeding from the lung when menstruation was impending. On Feb. 7th, when her menstrual period was seven days overdue, she had hæmoptysis at 5.25 A.M. to the extent of two and a half ounces; this ceased immediately on inhalation of one capsule of amyl nitrite. At 8 A.M. the bleeding recurred and she lost 11 ounces; on this occasion, though followed by immediate retardation of the bleeding, the amyl nitrite did not succeed in completely checking the loss until ten minutes had elapsed. She was then ordered $\frac{1}{100}$th of a minim of nitroglycerine every two hours. At 11 A.M. she had two ounces of hæmoptysis which ceased spontaneously. On the 29th she had two ounces of hæmoptysis which ceased under amyl nitrite in three minutes. On March 19th, at 9 A.M., she had one ounce of hæmoptysis which ceased in three minutes after an amyl nitrite capsule. On none of the above occasions was there any subsequent inflammatory reaction or extra rise of temperature.

CASES 2 AND 3.—These were cases of hæmoptysis at the Jubilee Sanatorium for Consumption at Dalby, Queensland. The first patient had two attacks, both somewhat profuse, separated by an interval of half an hour. Amyl nitrite inhalation stopped the bleeding instantaneously in both attacks. The second patient had one attack which ceased immediately on inhalation of the drug. In neither of these cases was there any subsequent additional rise of temperature. Under instructions from Dr. Andrew Stewart, the visiting physician to the institution, all hæmorrhagic cases are now provided with a capsule of amyl nitrite which they are directed to use immediately on the appearance of bleeding.

CASE 4.—Dr. D. Wield of Brisbane reports the instantaneous cessation under amyl nitrite of phthisical hæmoptysis which he had been treating ineffectually by other means for some time. The case was in the last stage, however, and the patient shortly afterwards succumbed, but there was no recurrence of the bleeding.

Adding these four cases to the four already published in THE LANCET we have the following results. Of 13 attacks of hæmoptysis (12 phthisical and one cardiac) treated by amyl nitrite inhalation, all save one ceased within three minutes, the one referred to being delayed for ten minutes.

As pointed out in my first paper, the drug acts by suddenly lowering the peripheral resistance in the systemic arterioles, thus reducing the blood pressure in the pulmonary circulation indirectly through the "fall of blood pressure in the left auricle due to diminished resistance in the aortic outflow" (Schäfer).

It is, I think, matter for surprise that in so many of the cases referred to there should have been no recurrence of the hæmoptysis. The dilative action of amyl nitrite upon the peripheral arterioles is evanescent, probably enduring for but a very few minutes. It might be anticipated, therefore, that the bleeding would return at the end of this period. Yet in only one case did bleeding recommence within two hours (half an hour) and in half the cases recurrence was absent (leaving out of account the usual continuance of slightly tinged sputa). Probably the sudden heavy fall of blood pressure which follows inhalation of the drug permits some congulation and plugging of the leak and this is usually adequate to resist successfully the subsequent rise of blood pressure which likely enough fails in consequence of the previous hæmorrhage to attain to quite its former height.

Should it happen in the emergency of hæmoptysis that amyl nitrite were unprocurable it would be a rational procedure to immerse the patient in a hot bath. The result would be a large vaso-dilation of the cutaneous area and by so much a diminution of resistance in the aortic outflow, a fall of blood pressure in the left auricle, and a reduction, brought about passively, in the pulmonary blood pressure. At the same time the mouth and nostrils should be protected from inhalation of the hot air: indeed, the deliberate provision of cold air for inhalation would, I imagine, aid in securing hæmostasis. For by cold inhalation we might add some degree of active vaso-constriction of the pulmonary arterioles to the passive reduction of blood pressure already attained.

Elsewhere[1] I have argued that the paroxysms of migraine

[1] See a series of papers, entitled "The Mechanism of the Paroxysmal Neuroses," published in the Australasian Medical Gazette for July, August, September, and October, 1903.

and asthma are of vaso-motor mechanism and that they depend essentially upon a widespread vaso-constriction compensated wholly or in part by a more localised vaso-dilation. Conformably I have shown that in migraine the pain may be relieved (often completely though temporarily) by the simultaneous applications of heat to the general surface of the trunk and cold to the scalp; and that in asthma the dyspnœa may be relieved (often completely though temporarily) by the application of heat to the general surface of the trunk, combined with the inhalation of cold air. Again, in the same place I have argued that the mechanism of the physiological process of menstruation also depends upon a widespread increase of vaso-constriction or of general arterial tone, compensated at any rate in part by a pelvic, especially a uterine, vaso-dilation; and that the uterine vascular distension so attained results naturally in the menstrual loss. Conformably, I have shown that the loss is conspicuously reduced by hot immersion during menstruation.

Now in all three cases the results—diminution of pain in migraine, of dyspnœa in asthma, and of hæmorrhage in menstruation—are attained similarly—namely, by a reversal of the mechanism responsible for the phenomena of the pathological processes and the physiological process respectively. In all three cases such reversal results in diminution of the vascular distension at the site of the production of symptoms. And it follows that the relief of hæmoptysis by a similar combination of heat and cold would be attained by a similar modification of vaso-motor mechanism.

It may be, of course, that the treatment of phthisical hæmoptysis by the thermal means suggested would be inexpedient on account of incidental dangers not here referred to. Having no practical experience of the method, I could not defend it against such a charge. In any case, however, the method would remain a rational one—a remark which cannot, I maintain, be applied to the present widely adopted plan of placing an icebag in contact with some portion of the skin covering the thorax.

THE TREATMENT OF CONSTIPATION BY THE INJECTION OF OLIVE OIL.

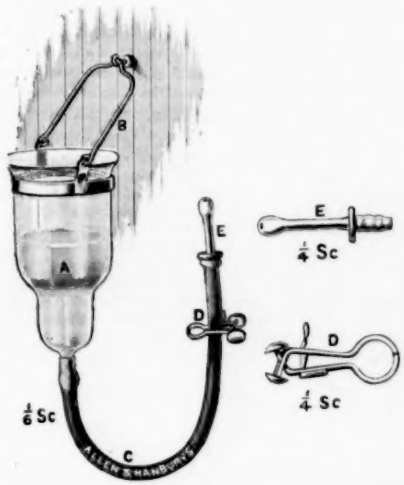
BY GEORGE HERSCHELL, M.D. LOND.

ALTHOUGH introduced into practice a considerable time ago by Kussmaul and Fleiner, the treatment of constipation by the injection of olive oil appears to have been much neglected in this country. Whilst without question most valuable in obstinate cases of constipation, especially when due to spasmodic contraction of the bowel, we find in the methodical use of oil injections one of the most useful procedures which we have at our command for the treatment of muco-membranous colitis. For not only does it to a great extent relieve the constipation which is so often present but it appears to reduce the amount of mucus in a remarkable manner. In fact, in many cases the amelioration amounts practically to a cure.

There are two points to be observed if we wish to be successful with this method. First, that we select cases which are suitable and, secondly, that the injections are given in a proper manner. If we prescribe the injection of olive oil as a matter of routine in all the cases of constipation which come to us for treatment we shall certainly be disappointed and discredit a very valuable method. For instance, we can hardly expect to do any permanent good to cases which depend upon improper food, or hard drinking water, or are the result of pyloric stenosis or gastric myasthenia. In like manner we cannot restore defective sensibility to the interior of the rectum by injections of any kind. But, per contra, we shall invariably obtain results of a very gratifying nature in (1) cases depending upon chronic colitis; (2) constipation associated with spasm of the bowel such as we so frequently find in neurasthenia; and (3) we may use this method with advantage to secure a daily action of the bowels in atony of the intestines whilst the affection is being treated by electrical methods. In these last cases the first week or two are most trying to both physician and patient as all purgatives have been abandoned and the treatment has not yet had time to restore sufficient tone to secure a daily relief. In these circumstances oil injections render us invaluable aid and if properly given are usually sufficient to keep the patient comfortable.

The method consists in the injection of from three to ten ounces of warm olive oil into the rectum at bedtime. This is retained during the night and usually results in an evacuation after breakfast on the following day. If the oil is introduced slowly at a low pressure by the force of gravity it should not produce an immediate call to stool and the patient should have no difficulty in retaining it for some hours. The Higginson syringe is the worst possible apparatus for injecting the oil as the average patient cannot manipulate it in such a manner as to produce a gentle and equable flow, the pressure under which the oil enters the body is far too high, and it cannot be easily used single-handed whilst the patient is in the recumbent position. From this it follows that as it is usually impossible for the physician or a trained nurse to give the daily injection we must provide the patient with an apparatus which can easily be used unaided and which from its construction compels a proper technique.

The apparatus which I have devised to meet these indications is very simple, consisting of a glass funnel (A) of a large relative capacity to its height, provided with a metal loop (B) by which it can be suspended at a convenient height above the bed upon which the patient lies. It is fitted with



about 27 inches of rubber tube (C) of large calibre, and terminates in a nozzle (E) of special construction. This latter has a large bore to allow the ready passage of the oil which invariably clogs the nozzles supplied with ordinary enema apparatus, and has the end of the bore well rounded so that even when roughly and unskilfully used it is impossible to damage the mucous membrane of the rectum, and from its shape is self-retaining. For durability and cleanliness it has been constructed of aluminium. The outflow of oil is controlled by a spring clip shown at (D) which is so contrived that when opened it will remain so until a catch has been released.

The injection of the oil can be readily performed by the patient without assistance. The measured quantity of oil is heated by standing the beaker containing it in a basin of hot water, it is emptied into the funnel taking care that the clip is closed, the funnel is hung on a nail driven into the wall above the bed, the patient lies on his back directly under it, places a pillow under his hips, introduces the nozzle, presses the clip, and waits until the funnel is empty. For the first few times it may be as well to apply a pad of wool to the perineum to absorb any oil which may not be retained; afterwards this precaution will be superfluous. It is best to commence with five or six ounces and to reduce the dose daily until the smallest amount which will produce an action of the bowels is found. If five ounces is not sufficient it may be raised to ten but beyond this it is not advisable to go and in cases where this

is insufficient the oil may for a few days be supplemented with a small water injection before breakfast. In any case after a few days it will probably be found that a few ounces of oil alone at bedtime will produce a daily evacuation. When this stage has been arrived at this dose can be given nightly for two or three weeks. The effect may then be tried of using the oil on alternate nights. It will probably be found that the bowels will be opened on the days following the intermission and as the case progresses the action of the oil will extend over a longer and longer time until it will be found that each injection will be followed by several daily stools. When this period arrives the injection should be ordered to be taken only on the evening of a day upon which an action has not taken place.

Harley-street, W.

A RETROPHARYNGEAL BLOOD CYST IN A CASE OF PURPURA HÆMORRHAGICA.

BY P. STANLEY BLAKER, M.R.C.S. ENG., L.R.C.P. LOND.,
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THE patient was a very well-nourished female child eight months old. She was taken to the Children's Hospital by her mother on June 6th, 1902, with the following history. The child had been ill for six days previously. The mother noticed on June 1st that the patient was not as bright and happy as usual. On the next day there was an attack of epistaxis; this lasted for some time and recurred off and on until the time of admission into hospital. On the same day that the epistaxis began the mother noticed that the child apparently experienced some difficulty in swallowing her milk. On June 3rd a rash in the form of dark red spots appeared on various parts of the body, especially about the region of the knees, and in addition to the dysphagia there was some difficulty in breathing. Fresh spots had developed by the 4th "and the old ones had turned of a purplish colour." On the 5th "all the symptoms had become more aggravated and the child's condition was serious, fresh spots had appeared and the dysphagia and dyspnœa were both more marked." On the 6th the patient was taken to the hospital and admitted. During this time she had been sick, occasionally bringing up blood; the bowels were rather relaxed and the motions were of a dark colour. The previous history showed that she had never been ill before; she had been brought up on the breast. The father and mother were both very healthy; the father's sister died in childbirth; the mother's father was said to have suffered from epistaxis. The mother lost one child from diphtheria and there was one other child living who was quite well. There were no miscarriages.

On admission the child was pale, with the eyes rather sunken and the lips somewhat cyanosed. The respirations were rapid, shallow, and stertorous; there was some recession of the lower ribs, with sucking in of the intercostal spaces during inspiration. From the anterior nares there was a copious discharge of mucus, not blood-stained. The anterior fontanelle was still open, there were two lower incisor teeth, and the gums were quite healthy. There were no very obvious signs of rickets; no tenderness or swelling over any of the bones was present. Subcutaneous hæmorrhagic spots were scattered all over the body, including the trunk, extremities, and face, and especially about the front of the knees. Some of the bigger spots were of about the size of a split pea and were very dark in colour. In addition there were several small bruises over the lower third of both thighs and on both arms. On the left side of the neck behind the posterior border of the sterno-mastoid muscle was a non-fluctuating swelling of glandular origin. A large quantity of mucus in the mouth obscured the pharynx and surrounding structures from view, but a digital exploration revealed a distinct tense elastic swelling of about the size of half a walnut situated on the posterior pharyngeal wall more to the left side. This exploration was followed by bleeding from the nose. The action of the heart was rather rapid but otherwise the sounds were quite natural. The lungs were free from any signs of trouble beyond a few rhonchi heard here and there. The abdomen was natural and the liver and spleen could neither of them be felt. There was no blood in the urine as far as could be seen from the wet napkins.

On first seeing the child diphtheria was suspected and a smear was made on a cover-slip from the nasal discharge and stained, but it was found to be free from diphtheritic organisms. It was after this that the digital exploration of the throat was made and the swelling detected. Of course, an acute retropharyngeal abscess was diagnosed and as there was a good deal of obstruction to the breathing it was decided to open the abscess immediately by an incision in the mouth. The patient was taken into the operating theatre and without an anæsthetic the swelling was incised, the knife being guarded and directed along the left index finger. During the operation the head was thrown well over the edge of the table and turned over immediately the incision was made. Dark-coloured blood escaped from the mouth but there were no signs of pus. There was very free bleeding after the operation but the breathing was instantly relieved. The hæmorrhage continued without ceasing till the patient died. A good deal of it came through the nose and large quantities were vomited every now and then. An alum spray (30 grains to one ounce) was frequently used; glycerine and tannic acid (20 grains to one ounce) was painted over the parts, likewise tinctura ferri perchloridi (1 in 4 of water); sponges soaked in iced water were applied to the pharynx and finally adrenalin solution was painted over the part; internally calcium chloride (five grains) was given, to be repeated every three hours. None of these remedies were effectual in checking the bleeding. Death took place five hours after the operation.

Necropsy.—The post-mortem examination was made on the following afternoon. The body was well nourished and was very pale. Rigor mortis was not present. There were many small bruises and subcutaneous hæmorrhagic spots as above described. The gums and tongue were quite natural. In the posterior pharyngeal wall, more to the left side and on a level with the epiglottis, was the cavity of a blood cyst of about the size of a large cherry which had been opened by a small incision. Its walls were thick and were composed of the submucous tissues. The œsophagus, larynx, trachea, and bronchi were all natural. The glands in the left side of the neck were enlarged. As regards the heart there were small petechial hæmorrhages into the epicardium but there were none into the endocardium. On the surface of the lungs there were a few petechiæ and on section several red congested areas were scattered throughout. The thoracic glands were all natural. The liver and spleen were normal. The kidneys and suprarenal bodies were likewise normal. The stomach contained altered blood and at the cardiac end there were many large submucous hæmorrhages. The whole length of the intestinal canal contained dark altered blood and in the lower half of the small intestine and colon there were many small submucous hæmorrhages. The solitary follicles and Peyer's patches were distinctly swollen. There was well-marked craniotabes of the back of the skull and there were also some small hæmorrhages under the pericranium and also beneath the dura mater, particularly in the posterior fossa. The brain and meninges were quite normal. A tube of broth was inoculated from a freshly cut section of the spleen but it remained perfectly sterile.

The case is extremely interesting from the point of view of diagnosis and treatment. With regard to the former the diagnosis must first be made of the general disease and secondly of the swelling in the pharynx. The onset in this case was rather too quick to fit in with the diagnosis of scurvy-rickets nor were there any of the characteristic tenderness and subperiosteal swellings of any of the long bones. The gums were quite healthy and the fact that the infant had been brought up on the breast was all against that theory. Hæmophilia in the female child is an extremely rare condition (a case of the kind was recently recorded by me[1]) nor was there anything in the family history to support that view. Lastly, the case might have been taken for one of those somewhat rare examples of suprarenal apoplexy associated with a general hæmorrhagic diathesis. My experience of this disease is that it is very acute in its onset and rapidly fatal, being preceded by severe collapse. The necropsy in the present case showed the suprarenal bodies to be perfectly healthy. Purpura hæmorrhagica is a condition that is fairly frequently met with in children,

[1] Brit. Med. Jour., Jan. 23rd, 1904.

perhaps more often in older children than the patient. In this disease there is a general hæmorrhagic tendency and the extravasations take place not only under the skin but they are also in most cases submucous and there may be in some instances very copious internal hæmorrhage producing the typical symptoms due to excessive loss of blood. Why the blood-vessels should rupture and produce this hæmorrhage is not definitely known. In all probability the disease is toxæmic in nature. I am inclined to regard the case above related as one of purpura hæmorrhagica.

With regard to the swelling in the pharynx, abscess was naturally the first thing thought of. Of course, the two conditions, purpura and abscess, may coexist quite independently of each other or, as is more likely, the purpura may be the result of a septicæmia, the abscess then being either the primary focus or secondary to some other source of infection. With evidence of subcutaneous hæmorrhages all over the body the probability of the swelling being of the nature of a blood extravasation also should have occurred to one.

Now, as to the treatment in such a case. The swelling was obviously causing a good deal of obstruction to the breathing and it was imperative that something should be done to relieve it. Granting that the diagnosis of a retropharyngeal blood cyst had been made, then any operation involving the use of the knife would have meant the probable risk of continued hæmorrhage, whether the cyst had been opened in the mouth or in the neck like an ordinary retropharyngeal abscess. In the latter case the wound would have been plugged and the hæmorrhage probably controlled, but being a very extensive and more serious operation it could not have been undertaken in this case considering the low condition of the patient. Therefore, I think, intubation of the larynx should have been tried first. It might have been difficult to accomplish on account of the swelling in the throat. If successful and the dyspnœa relieved then the patient might have been left alone till the general condition had improved and the swelling subsequently incised if necessary. Failing this a preliminary tracheotomy might have been done and the swelling incised in the mouth later or at the time followed by plugging of the cyst cavity. With regard to the treatment of the hæmorrhage which followed the operation in this case, one thing more might have been done as a last resort and that was to have performed tracheotomy and then plugged the cavity of the cyst. To this the parents would not give their consent.

I am indebted to Mr. L. A. Dunn for kind permission to publish the notes of this case.

Ealing.

THE DISTRIBUTION OF FAT AND STRYCHNINE IN NUX VOMICA SEEDS.[1]

BY H. WIPPELL GADD, F.C.S.,

AND

SYDNEY C. GADD.

IN common with other manufacturers we have had some trouble in making the official liquid extract of nux vomica on account of the fat which the seeds contain. Various suggestions have from time to time been made to overcome this difficulty, but they have been chiefly for the treatment of the finished product. It was, however, suggested, more than 20 years ago, by T. E. Greenish that the fat should be removed from the drug by a preliminary percolation with benzol. Such a process would obviously be troublesome and expensive on the manufacturing scale and we are not aware that it has ever been used.

Some time since we had occasion to grind a quantity of nux vomica seeds (A) for manufacturing purposes. This we did by first steaming the seeds to soften them and then passing them through a Carter's disintegrator. The centrifugal action of the disintegrator separated the light hairs from the heavier particles which make up the bulk of the seeds and it was suggested that it might be advantageous to reject these hairs, as they probably contained more fat than did the remainder of the seeds. Before doing so we took samples of the hairs (which amounted to about 5 per cent. of the whole) and of the rest of the powder, and examined these samples by the following methods:—

1. A portion of each sample was freed from fat by prolonged treatment in a Soxhlet tube with boiling ether with the following results:—

Percentage of fat found in hair	7·0
Percentage of fat found in remainder of the seeds	2·0
Percentage of fat in whole seeds (by calculation)	2·25

2. Another portion of each sample was examined for strychnine by Bird's process[2] with the following results:—

Percentage of strychnine in hairs	0·5
Percentage of strychnine in remainder of seeds	1·5
Percentage of strychnine in whole seeds (by calculation)...	1·4

From these results it is obvious that by rejecting the hairs a considerable portion of the fat would be removed, whilst the loss of strychnine would be immaterial. A liquid extract was therefore made from the seeds in No. 20 powder from which the hairs had been removed. The liquid extract was made by the official process, but the percolation was continued until the product ceased to give a precipitate with the usual alkaloidal reagents. The weaker percolates were concentrated and the finished product was adjusted to the strength of 1·5 per cent.

The amount of fat in the liquid extract was then estimated by the following methods. The extract was evaporated almost to dryness and the residue was ground with powdered glass. The fat was extracted by treating the mixture with boiling ether in a Soxhlet tube, the resulting percentage of fat in liquid extract being found to be 0·62. It was therefore evident that the amount of alcohol (70 per cent.) which was sufficient to extract the whole of the strychnine present in the seeds (freed from hairs) only removed one-third of the fat. The liquid extract made thus was of excellent quality and free from any objectionable amount of fat.

This result, however, was not in itself conclusive, as it will be noticed that the seeds contained rather less than the average amount of fat. The opportunity not immediately occurring of making further experiments on the manufacturing scale the following experiments were made on small quantities. Some nux vomica seeds (B) were taken and after being well steamed were decorticated by hand. The decorticated seeds were found to amount to about 86 per cent. of the whole. The hairs and skins were found to amount to about 14 per cent. of the whole. The fat and strychnine were then estimated as before with the following results:—

Decorticated seeds	Fat, 3·5% ...	Strychnine, 1·5%
Hairs and skins	,, 1·5% ...	,, 0·9%
Whole seeds (by calculation) ...	,, 3·25% ...	,, 1·4%

Small quantities of liquid extracts were then made from each of these samples. The official method was strictly followed but no attempt was made thoroughly to exhaust the seeds nor were the finished products adjusted to the strength of 1·5 per cent. The following results were obtained:—

Sample B, whole seeds, No. 20 powder.—The liquid extract made from this sample contained 0·84 per cent. of fat and 0·95 per cent. of strychnine. Therefore the amount of alcohol (70 per cent.) required to extract two-thirds of the strychnine removed one-fourth of the fat.

Sample B 1, decorticated seeds, No. 20 powder.—The liquid extract made from this sample was found to contain 0·67 per cent. of fat and 1 per cent. of strychnine. Therefore in extracting two-thirds of the strychnine only one-fifth of the fat was removed.

Sample B 2, skins and hairs.—The liquid extract made from this sample was found to contain 1 per cent. of fat and 0·5 per cent. of strychnine. Therefore in extracting five-ninths of the strychnine two-thirds of the fat were removed.

These results confirm the experiments made on Sample A, but presuming that the hairs contain almost as much fat as do those of Sample A the skins must contain very little, if any, and therefore there is no advantage in rejecting them.

Further experiments were made on another sample of seeds (C). The seeds were found to contain 4·5 per cent. of fat and 1·5 per cent. of strychnine. A portion of the seeds was taken and the hairs were carefully scraped off without removing the skins. The scraped seeds were found to contain 4·3 per cent. of fat and 1·52 per cent. of

[1] A paper read before the British Pharmaceutical Conference at Sheffield on August 11th, 1904.

[2] Pharmaceutical Journal, 1900, vol. ii., p. 574.

strychnine. The hairs were found to contain 8 per cent. of fat and 1 per cent. of strychnine. Liquid extracts were then prepared from these as above. The liquid extract prepared from the scraped seeds (C 1) contained 0·8 per cent. of fat and 1·16 per cent. of strychnine. Therefore the amount of alcohol (70 per cent.) required to extract three-fourths of the strychnine only removed about one-fifth of the fat. The liquid extract prepared from the hairs (C 2) contained 1·72 per cent. of fat and 0·33 per cent. of strychnine. Therefore the amount of alcohol (70 per cent.) required to extract one-third of the strychnine removed one-fourth of the fat. There was, however, a source of error in this last experiment, as, the supply of liquid extract running short, the strychnine was determined on the residue left after the removal of the fat, and strychnine not being entirely insoluble in ether there was probably some loss of the alkaloid.

We intend to continue these experiments, but publish the results obtained so far now in the hope that other workers will contribute such facts and figures as have come to their notice. We think, however, that we are justified in drawing the following conclusions: (1) that the hairs of nux vomica contain proportionately much more fat and less strychnine than do the inner portions of the seeds; (2) that the fat is more readily removed by alcohol (70 per cent.) from the hairs than from the denser portions of the seed; and (3) it follows that the hairs can be rejected with advantage before making the liquid extract.

THREE CASES OF SKIN DISEASE.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.,
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THE three following cases of somewhat uncommon diseases of the skin occurred during the current year in patients under my charge at the Birmingham General Hospital.

CASE 1. *Acute pemphigus in a butcher's boy resulting in recovery.*—The patient, aged 14 years, was admitted into the General Hospital on March 3rd, 1904, complaining of an eruption on his skin, sore-throat, and headache of 11 days' duration. His family and previous history were unimportant. Three weeks previously he cut his finger at his work; the wound did not heal and was poulticed by his mother. Eleven days previously, ten days after the wound to his finger, the patient felt too ill to go to work and a bullous eruption broke out, the first bleb being below the left eye. On admission his finger was practically healed but there was a small granulating surface still to be seen. The eruption covered the face and head and involved the mouth and tongue. His lips and tongue were so swollen that it was not possible to see exactly the distance to which the eruption extended to the back of the cavity. There was a similar eruption around the anus, but the epidermis had in places been rubbed off, leaving a raw ulcerated surface. The eruption on the face consisted of oval bullæ from a half to two-thirds of an inch in their longest diameter, containing sero-purulent fluid and surrounded by a pink areola; where the epidermis was detached there was a raw granulating surface. His temperature on admission was 100·4° F. and his pulse was 84. His urine contained a haze of albumin. Examination of the blood was normal. There was no eosinophilia. Cultivations of the fluid from the blebs produced only the bacillus coli. His temperature became normal on the fourth day after admission and his general condition was quite satisfactory. The rash was treated by a dusting powder containing one part of boric acid, one part of glutol, and eight parts of kaolin; but as after five days there seemed to be no change he was given in addition by the mouth five minims of liquor arsenicalis three times a day and on the 11th this was increased to ten minims. Improvement commenced at once and by March 25th he was nearly well. The albumin disappeared from his urine and he was discharged quite cured on April 5th.

During the last few years a good deal of attention has been drawn to a form of pemphigus which occurs in butchers or those handling animal tissues. Our knowledge of it is chiefly due to Pernet and Bulloch but the case under consideration differs from this classical description in certain respects: (1) the mildness of the constitutional disturbance; (2) absence of the diplococcus described by Demme and confirmed by Bleibtreu and Bulloch; and (3) the good effect of arsenic. The case is of importance as tending to modify the grave prognosis of these cases. It is evident that the infection is not always virulent.

CASE 2. *Occupation rash caused by bichromate of potassium.*—The patient, a man, aged 33 years, came to the out-patient department on Jan. 12th, 1904, complaining of a skin eruption on both forearms. He had been under my care in December, 1901, suffering from phthisis and in February, 1902, was admitted into the hospital and underwent a course of treatment by Koch's tuberculin-R. As the result he gained nine pounds in weight, there was a diminution of all symptoms, and he had been able to work up to the time of his reappearance at the hospital. There was a marked family history of consumption, one brother and two uncles having died from that disease. According to the notes taken during his former stay in hospital the apices of both lungs were involved and tubercle bacilli were present. He was treated with injections of tuberculin-R, commencing with $\frac{1}{10}$th of a milligramme and increased until 20 milligrammes were given. After his discharge he continued to attend for some time to receive injections. As these injections had been made chiefly in the forearm he suspected that the eruption of which he complained might have something to do with them. The eruption when seen consisted of round or oval elevated purplish-red patches with some slight scaliness. He was told that the eruption was probably due to something which he handled and on inquiry it was found that he was a warehouseman engaged in handling upholstery materials and on a future visit he brought to the hospital some scraps of cotton velvet which were examined by Dr. W. H. Wynn, pathologist to the hospital. Dr. Wynn found that the velvet contained potassium bichromate, alum, and a salt of iron and that the bichromate was present in sufficient quantities to account for the rash. The patient had not improved but he had not given up work and the eruption spread over his face, body, and lower extremities, so he was admitted into the General Hospital where the treatment consisted of cleanliness by means of baths and the application of boric acid ointment to the skin. Under these means he made a complete recovery and was discharged on March 2nd cured.

This is a very good example of a bichromate of potassium eruption. Successful treatment of occupation rashes depends entirely on a correct diagnosis; when that is made the rest is perfectly easy and merely involves the application of the principle *causa sublata tollitur effectus*. We are led to suspect an occupation rash when it commences upon the hands or forearms; in all such cases this possibility should be taken into account and no routine diagnosis of eczema accepted as satisfactory.

CASE 3. *Orthostatic purpura.*—The patient, a man, aged 43 years, was admitted into the General Hospital on Feb. 12th, 1904, complaining of swelling of the legs and a rash all over the lower extremities of two days' duration. There was no history in the family of tubercle or rheumatic fever. The patient said that he was well until 29 years of age when he suffered from enteric fever in Bengal; three or four years later he had intermittent malarial fever in Lower Burmah and the attacks continued until after his return home. Two years previously he had pleurisy and was ill in bed for a month. Since then he had always suffered from a cough and some few months after the attack of pleurisy he coughed up from a pint to one and a half pints of blood. During the last two years he had lost 3 stones 4 pounds; 18 months previously he began to suffer with pain in the back radiating around his thorax. On examination the patient looked pale and thin; there was marked angular curvature of the spine, beginning at the eighth dorsal vertebra and involving the following two segments. There was dulness at both apices, especially on the left side, while the right base behind was dull below the level of the seventh rib. Over the dull areas bronchial breathing and moist sounds could be heard. The swelling of the legs disappeared after his admission but both lower extremities were covered with a purpuric eruption extending up to the buttocks but most marked from the ankles to the knees. There was also a slight eruption of the same kind on the upper surface of the forearms. The liver and spleen were normal. The urine contained a trace of albumin. The blood was quite sterile. An attempt to support the spine by a Sayre's jacket failed as it made his back sore and the patient refused to allow another trial to be made. After resting in bed until the 29th the rash had entirely disappeared, so that he was allowed up for

two and a half hours, with the result that the next day the eruption had returned and was as extensive as before. A week later the same result followed a similar experiment. By March 14th the spots had gone but as the jacket had to be taken off he could not be allowed to get up. He remained in hospital until March 19th when he left at his own request. The treatment, which seemed to have no effect, consisted of at first lemon juice, half-ounce doses taken in soda-water three times a day; secondly, ten-minim doses of turpentine three times a day; and lastly, 15 grains of calcium chloride in water three times a day. The effect of the last remedy is not known as the patient had to be kept in a recumbent position owing to the state of his spine.

This is a well-marked case of orthostatic purpura, such as is commonly seen after acute rheumatism, where the eruption comes out as soon as the patient is allowed to get up and disappears when he resumes a horizontal position. It is apparently due to the state of the blood and usually passes off in a few weeks. The blood condition is not known. It might be suggested that the condition in this case was due to the lesion in the cord, the injury there setting up vaso-motor paralysis, but it seems unnecessary to adopt such a hypothesis in view of the fact that the disease often occurs in conditions where the spinal cord is quite healthy. In using the name "orthostatic purpura" it is not intended to make a fresh subdivision but merely to direct attention to this peculiarity. In 1881 it was suggested by Ceci of Prague that purpura might be caused by the action of an organism which he believed he had isolated, and which, when injected into the veins of animals, caused hæmorrhages. These statements have never been confirmed but micro-organisms have been found by one or two other observers. On the other hand, I have had all my cases examined systematically and the blood has in every case been found sterile. It is therefore fair to assume that organisms are not necessarily present and possibly when they have been found the result has been due to defective methods.

Birmingham.

UNCOMPLICATED MYOCARDITIS IN A GIRL IN HER EIGHTH YEAR ASSOCIATED WITH SIGNS OF CARDIAC FAILURE AND FOLLOWED BY SUDDEN DEATH.[1]

BY GEORGE CARPENTER, M.D. LOND.,

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A GIRL, aged seven years and 11 months, was brought to the North-Eastern Hospital for Children on Jan. 11th, 1904. Her health had been quite good until July, 1903; at that time she had an ulcerated mouth and her breath was very offensive. Since August she had been an out-patient at the Adelaide Infirmary. She went to Sunday school on Jan. 10th but fainted while there and was carried home. There was history neither of diphtheria nor of rheumatism to be obtained. She had never had scarlet fever. When I saw her she was somewhat cyanosed. Her pulse was weak at the wrist and the first cardiac sound was not good. The second at the left base was accentuated. There was no extension of dulness to the right and there was no regurgitant pulse in the vessels of the neck. A few bronchitic signs were to be heard over the lungs and the free edge of the liver was felt two fingers' breadth below the costal margin in the nipple line. The patellar reflexes could not be obtained; the soft palate acted but not very freely. Her urine was nearly solid with albumin. I thought her to be suffering from myocarditis and admitted her into hospital. On the day of admission the highest pulse-rate was 136 to the minute and the highest respiration-rate was 48 to the minute. Nothing abnormal was detected in her fundus oculi. Her temperature was 97·8° F. On the following day she was much worse. She was cyanosed; the breathing was shallow and irregular; the heart sounds were very faint and feeble and the pulse could not be felt at the wrist. She died at 3.30 P.M.

The post-mortem examination was made on the following day at 2.30 P.M. She was a well-nourished child; rigor mortis was passing off. There were four ounces of serum in the abdominal cavity and one and a half ounces in the pericardial sac. The heart weighed seven ounces. Its valves were healthy. The right side was slightly dilated; it was thin-walled, pale, and friable. The left ventricle was of normal thickness; it also was very pale and friable. Both auricles were dilated and pale. The heart was pale on its endocardial surface as well as on its pericardial aspect. All its cavities were filled with blood clots. The extreme pallor of the heart was the most striking feature. The lungs were heavy and dropsical; the right weighed nine and a half ounces and the left seven and a half ounces. The liver was pale; its free edge was on a level with the costal margin in the nipple line. The right kidney weighed three and a half ounces and the left three ounces; they were pale. The spleen and pancreas were normal; the former weighed one and a half ounces and the latter two ounces. The mucous membrane of the stomach was injected and it contained a little altered blood. The intestines were normal. The brain, which weighed 40½ ounces, was normal.

Microscopical examination.—The heart muscle was stained by Marchi's method, which showed fatty degeneration of some of the muscle fibres of both ventricles and auricles. The straight tubules of the kidney contained a considerable number of red blood corpuscles. The corpuscles were shrivelled and old, they were widely distributed, and filled the lumen of many of the straight tubules, forming casts there. In addition the two-thirds of the kidney nearest the pelvis contained an amount of scattered pigment granules. These granules were not uniformly distributed, certain areas being quite free from them, while in other parts they were very numerous and closely aggregated. They varied in colour from golden yellow to nearly black. Some were incorporated with the cells of the tubules but others lay on their surface. In places their origin from the altered blood cells could be made out.

Remarks.—In vol. iii. of the Reports of the Society for the Study of Disease in Children (pp. 170–81) and the paper which was read before the society and published in full in THE LANCET of May 30th, 1903, p. 1508, I drew attention in this country, under the heading of "Uncomplicated Myocarditis in Children," to the occasional occurrence of clinical examples of primary degeneration of the heart muscle in the young with all the symptoms of valvular disease and without endocarditis, of which the case whose history I have just narrated and from whom the specimens which I now show were taken is an excellent example. Long prior to this, in 1896, I had called attention to the condition in America.[2] In my other cases, one, post-diphtheritic, whose cardiac symptoms were much like those of the child under discussion, recovered. Another of unknown causation died and interstitial myocarditis was found post mortem. A third, of rheumatic origin, died suddenly and fatty degeneration of the heart muscle was found. A fourth, a boy, aged 12 months, showed extensive fibroid disease of the heart. The child died suddenly and general tuberculosis was found at the necropsy. The cause of the heart disease was not obvious and possibly rheumatism was responsible. There was no evidence of syphilis. In the present example the cause for the fatty degeneration of the heart is not certain, but I am inclined to the view that it is post-diphtheritic; at least, that appears to me the most likely solution.

I claim for myocarditis, including in this term cases of fatty degeneration of the muscle fibres pure and simple, a distinct clinical entity. I have used the term myocarditis with intent and not because I wish it to be understood that I consider there is anything about the condition of an inflammatory nature. For one reason it is customary at the present time in text-books on children's diseases to group such conditions under the heading myocarditis, but I have used the term chiefly because I wish the case to appear as an addendum to my recent communication on myocarditis in children. The disorder in a pronounced case, in the absence of complaints known to produce it, can be diagnosed during life; and it is a state, dangerous though it be, from which recovery can and does take place, even in a severe case, as I have more than once observed. The incidence of cardiac symptoms in association with diphtheria, rheumatism, or

[1] The specimens were exhibited at the Society for the Study of Disease in Children on Feb. 19th, 1904.

[2] Two Fatal Cases of Heart Disease in which the Cardiac Muscle was alone Involved, Pediatrics, vol. ii., pp. 234–38.

sepsis facilitates the diagnosis. Myocarditis is likely to be overlooked in cases where the primary disorders which produce the complaint have passed unnoticed, as is very likely to happen and as a matter of fact frequently does happen, and when the patient first comes under observation as a case of heart disease, especially if the condition sometimes happens to be associated with cardiac bruits independent of valvular lesions. Of cases of temporary cardiac invalidism there must be many examples which escape detection. Now that attention is drawn to the condition it is hoped that it may bring forth valuable observations in the future on an important subject which needs further and more extended investigations.

Welbeck-street, W.

A CASE OF ANILINE POISONING.

BY P. G. HARVEY, M.B. LOND., L.R.C.P. LOND., M.R.C.S. ENG.,

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A MARRIED woman, aged 27 years, was admitted into the General Infirmary, Worcester, on May 10th, 1904, under the care of Dr. Mabyn Read, with the following history. For the last two months she had suffered from a painful swelling of the lips and gums, the pain being so severe as to prevent her taking solid food. There was no increased salivation. For the last two months she had also suffered from considerable shortness of breath and a feeling of faintness. A fortnight after the onset of these symptoms she noticed a discolouration of the gums and the inner side of the cheeks. About this time she began to suffer from sickness; vomiting occurred immediately after taking food which was returned unaltered. The nature of the food taken made no difference to the sickness and there was no abdominal pain, diarrhœa, or constipation. The patient said that her urine was very dark in colour about this time. She did not remember taking any food which upset her, nor had anyone else in her house suffered from similar symptoms. Six weeks previously she came to the infirmary as an out-patient but for family reasons would not become an in-patient; she only attended twice and since then had been obliged to keep indoors and to lie down on account of the shortness of breath. She had been attended by her private medical adviser for the last six weeks. During the last week her general condition had improved and she had not had any sickness. The past history and family history were unimportant.

On admission the patient was pale but not markedly anæmic-looking. Her complexion was somewhat sallow. The breath was offensive and the tongue was coated with a brownish fur. On examining the gums the first thing to attract attention was the pigmentation which was situated at the alveolar margin; it was dark blue in colour, being not unlike the pigmentation seen in lead poisoning but rather brighter in colour. Unlike the "line" of lead poisoning it was more like a band of pigmentation, as it extended further over the gums, in some places being fully a third of an inch deep, gradually fading into the normal colour of the gum. It was most marked on the labial aspect of the gum but was also present on the lingual aspect. It was especially noticeable around the upper left second molar which was very carious; it was also noticeable along the gum where several teeth had fallen out or had been removed some time before. On the mucous membrane of the cheeks, parallel with, and opposite to, the teeth of both the upper and lower jaw on both sides of the mouth were two bands of similar pigmentation, but the outline was much more wavy and about half an inch deep. These bands extended right round the mouth and behind on to the mucous membrane, covering the ascending ramus of the lower jaw. There was no pigmentation on the palate. All the organs were healthy. There was no sign of paralysis in the limbs. No increased pigmentation was found elsewhere on the body. The urine was of specific gravity 1018, acid, and contained no albumin.

A diagnosis of possible ptomaine poisoning or a local infection in the mouth from some unknown micro-organism was made. Lead poisoning was excluded by the absence of paralysis at the wrists, the presence of pigmentation on the cheeks, and by the nature of the pigmentation on the gums. The sickness did not seem like the ordinary lead colic. Addison's disease suggested itself on account of the gastric symptoms from which the patient suffered, but the pigmentation was unlike that found in this disease and did not exist elsewhere. The treatment was purely symptomatic, a bismuth mixture and an antiseptic mouth wash which were used when she was an out-patient were continued, fluid food only being given. A culture from the mouth was not made at the time. One made later showed staphylococci and streptococci only.

On May 16th Dr. G. W. Crowe saw the patient and at once suggested aniline poisoning as a possible cause for her symptoms. On following up this idea it was found that she was in the habit of using an indelible pencil for writing, which she moistened in her mouth from time to time. She had used this class of pencil for years and did not think that she had used it more than usual lately. She promised to obtain the pencil but failed to do so. A similar pencil tested afterwards gave most of the tests for aniline. The urine was examined with negative results. The patient was discharged on May 28th, the general symptoms having subsided and the pigmentation having steadily decreased, especially on the cheeks.

This case seems remarkable on account of the length of time during which the habit of sucking the pencil had existed without previously causing any symptoms. Dixon Mann[1] mentions cases of aniline poisoning which resemble the above case fairly closely. When a large quantity was swallowed at one time vomiting, dizziness going on to coma, dyspnœa, and intense blueness of the surface were prominent symptoms. Milder cases suffered from discolouration of the lips and face without dyspnœa and vomiting. He also quotes Rayner[2] who relates a series of cases which seem very similar. The aniline in these cases was absorbed from napkins which were marked with a stamp the ink of which was aniline. Locally the buttocks and vulva were stained. The children, who were newly born, had blue discolouration of the gums, lips, and palate; the skin was dusky but no general symptoms were noted.

I am greatly indebted to Dr. Read for permission to publish, and also for kindly revising an account of, this case.

Penzance.

CERVICAL FIBROID OF THE UTERUS OBSTRUCTING LABOUR; CÆSAREAN SECTION; SUPRAVAGINAL HYSTERECTOMY.

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THE following case from its comparative rarity seems to me worthy of publication. The patient, aged 39 years, who had been married seven years, had reached full term of her third pregnancy. The first confinement occurred five years ago; the labour lasted seven hours and forceps were used. The second confinement took place two years and eight months previously; the labour lasted 12 hours and the child was born before the arrival of the medical attendant. After the second confinement until the third pregnancy commenced menstruation was regular and there was no increase in the amount lost at each period. In the early months of the third pregnancy there were no abnormal symptoms, but during the last six weeks she suffered discomfort and pain of a bearing-down character, so that she often thought labour was commencing. There was increased frequency of micturition and diarrhœa was present almost throughout the whole pregnancy.

Labour commenced on May 11th, 1904, at 2 A.M.; the pains were strong and regular throughout the day. Between 7 and 8 P.M. she was seen by Dr. J. Cooke of Lincoln who found on examination a large fibroid blocking the pelvis and immediately sent her to the Christchurch Hospital for operation. She was driven a distance of 12 miles in a dog-cart, kneeling on the floor of the vehicle with her arms resting on the seat, and arrived at the hospital at about 11 P.M.

On examination the abdomen presented the usual appearance seen at the end of pregnancy; the uterine pains were so

[1] Forensic Medicine and Toxicology, edition 1898, p. 561.
[2] Brit. Med. Jour., 1886.

strong and followed one another so rapidly that but little could be made out by external palpation. Per vaginam a solid rounded mass was felt pressing down the posterior vaginal wall and occupying the whole of the posterior three-fourths of the pelvis. High up behind the pelvis the os, dilated to admit four fingers, was felt. The anterior lip was soft and œdematous; the posterior lip was not well defined but stretched out over the tumour. The membranes were unruptured and a foot could be felt presenting. Per rectum the posterior suface of the tumour was felt closely fitting the hollow of the sacrum. It was quite immoveable.

At 12.30 A.M. on May 12th, labour having been in progress for 20½ hours, Cæsarean section was performed. After delivery of the child the uterus was tilted through the abdominal incision and the placenta and membranes were removed. The bleeding was quite inconsiderable. The tumour was now ascertained to be a large fibroid springing from the posterior wall of the cervical canal and burrowing down into Douglas's pouch. It was decided to remove the uterus and fibroid. This was accomplished by ligaturing the ovarian arteries, dividing the broad ligaments, and raising peritoneal flaps from the anterior surface of the uterus and from the posterior surface of the fibroid behind. The tumour was easily shelled out from Douglas's pouch and with the uterus was brought out of the abdominal wound. The uterine arteries were then ligatured and the cervical canal was cut across near its lower end. The cervix was sutured with a few interrupted silk stitches, dropped back, and the peritoneum sutured over in the usual manner. The abdominal wound was closed in layers. The patient at the end of the operation, which lasted one hour and five minutes, was in good condition. The child weighed nine pounds and throve well. The mother made an uneventful recovery and left the hospital at the end of three and a half weeks.

The noticeable features in the operation were those which Amand Routh called attention to in his paper read before the British Medical Association in July, 1903—namely, the ease with which the peritoneum stripped up and with which the uterus and fibroid were drawn out of the abdomen; also the readiness with which the arteries, on account of their large size, were recognised and ligatured. There was some difficulty in deciding where exactly to divide the cervix, as owing to its canalisation it was not very clear where the cervix joined the vagina.

The parts removed consist of the uterus, both tubes and ovaries, with a fibroid springing from the posterior wall of the cervical canal and lower part of the body of the uterus. In the anterior wall of the uterus was an incision through which the child was extracted and below there was the dilated cervical canal cut across. The fibroid was ovoid in shape, the larger pole being above; it sprang from the lower part of the posterior wall of the body of the uterus and from the posterior wall of the cervical canal and projected downwards below the level of the external os for about two inches. It measured eight inches in length and five inches in breadth. The circumference at the centre was 11½ inches, two inches above this it was 12½ inches, and two inches below the centre it was nine and a half inches. The whole length of the uterus and fibroid was 14 inches.

Christchurch, New Zealand.

LITHOTRITY IN EGYPT FOR LARGE STONES.

BY FRANK MILTON, M.R.C.S. ENG., L.R.C.P. LOND.,
PROFESSOR OF CLINICAL SURGERY, GOVERNMENT SCHOOL OF MEDICINE, CAIRO.

THE choice of operation in cases of small stones is not of great moment, for any form of operation should be successful, but when large stones have to be dealt with the operation decided upon will certainly affect the result. The fact that lithotrity, by which throughout this paper urethral lithotrity is meant, offers distinct advantages over other forms of treatment in all ordinary cases by reason of the rapidity of cure and the absence of after-suffering is firmly established, but it is not equally clear to all surgeons that lithotrity is the best form of operation in cases of stones of large size—that is, of 50 grammes weight and over. Among the English surgeons in Cairo the doctrine is held that in all cases of stone in which the urethra is capable of taking a lithotrite of the pattern used by them lithotrity should be done through the urethra. The statistics which I am able to offer are taken from the practice of Mr. H. M. N. Milton and myself; they concern 159 cases of stones of 50 grammes and over, of which Mr. Milton contributes 113 and I 46, and they are consecutive cases and altogether unselected. All the patients were over 15 years of age with the exception of nine, of whom one 13 years of age was cured by a lithotrity, six between 12 and 14 years of age were cured by perineal lithotrity, and two between ten and 14 years of age were cured by suprapubic lithotomy. The cases treated by cutting operations were so treated either because that method was thought to be best for those particular cases at the time or because there was some mechanical difficulty other than the mere size of the stone preventing the grasping of the calculus with a lithotrite. The largest of all Mr. Milton's stones, which weighed 995 grammes, and for which laparotomy was successfully done, is not included. The largest stones treated under each heading were: by lithotrity, 452 grammes; by suprapubic lithotomy, 392 grammes; by perineal lithotrity, 387 grammes; and by left lateral lithotomy, 90 grammes. The total results obtained were as follows:—Lithotrity: cases, 84; deaths, five; mortality, 5·9 per cent. Perineal lithotrity: cases, 47; deaths, seven; mortality, 14·9 per cent. Suprapubic lithotomy: cases, 22; deaths, eight; mortality, 36·3 per cent. Left lateral lithotomy: cases, six; deaths, nil; mortality, nil. The comparative mortality of the two forms of operation, even including the lateral lithotomies which were all done for comparatively small stones, the largest only weighing 90 grammes, was, for lithotrity, 5·9 per cent. and for the cutting operations 18·9 per cent., showing a mortality in favour of crushing without a wound of 13 per cent.

Since the subject of a large stone must, from the nature of the disease, be in a certain percentage of cases the subject also of destructive disease of the kidneys, it follows that in all forms of operations undertaken for these cases there must be a certain proportion of, as it were, accidental mortality—that is to say, cases which will die after any form of treatment. This being so and the gravity of the disease itself being taken into consideration the mortality of 5·9 per cent. will compare favourably with that normal to any operation performed for disease of like gravity. Lithotrity is essentially an operation which needs practice for its efficient performance and the results of which are directly in proportion to the experience of the operator, and the dexterity necessary for the attack of large stones can only be obtained by constant practice on stones of ordinary size and weight. "Perineal lithotrity," as spoken of in this paper, is the operation described by Reginald Harrison, where the prostate is incised and the stone is broken up sufficiently to allow of its removal by forceps, and not the operation described by Keith where a small incision is made into the membranous urethra and the stone is crushed by a larger lithotrite than could be passed down the unwounded urethra and then washed out in the ordinary way. This last operation is hardly ever performed here, but the operation combining a perineal lithotomy with crushing of the stone with a special instrument is fairly common and after lithotrity gives the best results for large stones, but it has the drawback common to all cutting operations that in cases where the bladders are much disorganised by bilharzia the bladder symptoms are increased and owing to the bad nutrition of the part the wound is very long in healing and in some cases never heals at all, the patient dying even after a long interval with his wound in much the same condition as just after its infliction. There is an idea abroad that stones in Egypt are frequently very soft and that they occur in conjunction with chyluria; both these ideas are wrong, for although cases of soft phosphatic stones do occur in Egypt, as elsewhere, they are by no means abnormally frequent and the majority of stones will compare favourably, from the point of view of hardness, with those found in other countries; and also chyluria is a rare disease in this country and personally I have never met with a case complicated with stone.

The instruments used at Kasr-el-Aini are of a pattern devised by Mr. Milton. The lithotrites differ from the ordinary pattern in the large diameter of the rotatory part of the handles and in the annular form of the slides, tending to give increased power and delicacy in crushing and to diminish fatigue. The evacuating syringe is of the

simplest possible construction and the straight catheters are those generally used. The lithoclast is also Mr. Milton's pattern and is to be used through a comparatively large wound.

Cairo.

SOME OBSERVATIONS POINTING TO AN INTRACORPUSCULAR STAGE OF DEVELOPMENT IN THE TRYPANOSOME.

BY E. J. MOORE, F.R.C.S.I.REL.,
DISTRICT MEDICAL OFFICER, ASABA, SOUTHERN NIGERIA, WEST AFRICA.

ON making daily examinations of the blood from the peripheral circulation of cattle suffering from a severe trypanosoma infection I noticed free in the plasma numerous exceedingly minute spherical coccus-like bodies of a highly refractive nature. These bodies soon after their first appearance united in pairs and then became exceedingly active, the movements consisting principally of rapid flexion and extension of the combined pair and a slight absolute movement through the field of observation. 24 hours after their first appearance these bodies were seen to be no longer free but attached in large numbers along the periphery of the red corpuscles, slightly indenting their substance. On the third day the bodies, now almost completely intracorpuscular, had become very much larger and elongated to a peg-shape, the head lying in the body of the corpuscle while the shank projected from its surface, being evidently inclosed in a prolongation of the stroma which formed a sheath from which the point of the intracorpuscular body was sometimes protruded like the sting of an insect and sometimes suddenly retracted, the whole body travelling inwards through the substance of the corpuscle and impinging on its opposite wall. The projecting portions of these peg-shaped bodies, sometimes curved and sometimes straight, were in constant motion, the tips were blunt and evidently from their behaviour were provided with flagella, which, however, I was unable to perceive. In addition to these elongated bodies others of a spherical form were present moving actively inside the corpuscles and occasionally pushing the corpuscular substance outwards, elongating and appearing as projections from the surface; the condition was so general that each corpuscle contained from two to six of the bodies which gradually increased in size and gave to each individual disc an independent motion of a very interesting nature. The corpuscle could sometimes be seen to communicate a motion to its neighbour, with which it was not actually in contact, a phenomenon due, in my opinion, to the presence of flagella in the tips of the projecting peg-shaped bodies; at other times these bodies gave one the idea of trying to pull themselves free of the corpuscles and by their efforts individual corpuscles were pulled out of shape, sometimes appearing as ovals with a prolongation from each extremity from which protruded the tip of a peg-shaped body; at other times, when three of these bodies were present, the shape assumed was roughly triangular and constantly varied according to the strength of pull exerted by the contained peg-shaped bodies.

On the eighth day after the appearance of the free coccoid bodies in the plasma the intracorpuscular bodies in some cases separated to one side of the corpuscle, the hæmoglobin being collected to the other side; they then became snail-shaped and a marked constriction appeared between them and the bodies of the corpuscles, presenting the appearance of being budded off. After remaining for about 24 hours in this condition I have observed them to become detached and float free with a sluggish movement in the plasma, being then in shape, appearance and size remarkably like small trypanosomes but without sheath or spot. On the tenth day the blood of the animals, hitherto free from trypanosomes, was found to contain them in immense numbers and two days later the coccoid bodies which had been absent since the stage in which I have described them as invading the corpuscles again began to swarm in the plasma, and the cycle, which thus was completed in 10 days, recommenced.

On the appearance of the trypanosomes I made prolonged examination of the blood with the view to discover their mode of reproduction and was unable to find in any case evidence of longitudinal fission. I noticed, however, that the parasites were very often found in pairs and observed them travelling across the slide towards one another; the parasites also exhibited motions of a very peculiar nature, the body substance becoming repeatedly retracted to either extremity and sometimes at the same time to both extremities, forming one or two spheres with a bright spot in the centre. These movements were sometimes followed by the death of the parasite and it is a matter of interest that in dying the animal invariably assumed a globular shape; this probably accounts for the difficulty in finding trypanosomes post mortem even when they have caused the death of an animal. (That trypanosomes do not alter their shape in dried smears is due, I believe, to the fact that the process of drying fixes the animal in position before it has time to assume the circular shape.) In the cases of parasites which survived longer there was often a definite series of movements of the posterior portions of the body substance to the extremity of the tail, the tail-spot being jerked along with the protoplasm, which then gradually returned to its original position, the tail-spot remaining stationary against the side of the sheath while the protoplasm rippled forward past it; the result of the movements was that the tail-spot became slowly pushed towards the hinder extremity and though I could not convince myself that I ever saw the spot being actually extruded all the movements of the parasite seemed to be purposive and directed towards getting rid of the tail-spot which seemed to constitute a source of irritation.

There is one further point—namely, that the time of the appearance of the coccoid bodies in the plasma coincided with those movements of the tail-spot and that, when under the conditions described above, a free coccoid body and a trypanosoma appeared in the same field the tail-spot and coccoid body showed such a remarkable similarity that their optical characteristics were in fact identical.

From the description by Major C. Donovan, I.M.S., which I have read in THE LANCET of Sept. 10th, p. 744, of the piroplasmata Donovani I am inclined to think that the intracorpuscular peg-shaped bodies are of a similar nature to those which he describes. From my observations it will thus be seen that minute spherical bodies will sometimes be found periodically swarming in the plasma in animals infected with trypanosomes; that these bodies unite in pairs, appearing as comma-shaped organisms with highly refractive extremities; that these bodies later invade and penetrate the red corpuscles, becoming peg-shaped and increasing greatly in size; and that they finally take on a snail-shaped appearance and are extruded into the plasma. The extrusion of the snail-shaped bodies being followed by the appearance of large numbers of trypanosomes and the peculiar movements of the tail-spot being coincident with the presence of the free coccoid bodies would also seem to indicate that in the blood under observation the reproduction of the trypanosomes was effected by the extrusion of the tail-spot which, after undergoing development inside the red corpuscles, eventually became again free in the plasma and there possibly acquired the remaining characteristics of the mature organism.

Southern Nigeria.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF INTUSSUSCEPTION.

BY J. MCDONALD, M.D. EDIN.

ON Feb. 17th, 1903, I was called to a house about one and a half miles distant. On my arrival at noon I found a male child, aged 16 months, suffering from abdominal pain and vomiting and passing blood-stained mucus per anum. These symptoms had come on suddenly an hour previously. On abdominal examination a tumour was detected in the upper portion of the right inguinal region. This tumour was

distinctly kidney-shaped, freely moveable, and tender. I obtained the assistance of my friend Mr. T. Martland of Walsall and returned to the house about 5.30 P.M. prepared to operate. By this time the tumour was much larger, extending from the right iliac fossa across the abdomen to above and to the left of the umbilicus. It was now of the typical sausage shape.

Under anæsthesia inflation with air was first resorted to, an ordinary small hand-bellows being used; this was successful in so far as to reduce the tumour to the dimensions it had presented on the previous visit. The extraordinary resemblance of the tumour in size, shape, and consistency to the kidney was now well marked, so much so as to evoke from my colleague the suggestion that we had reduced the intussusception and that this was a floating kidney. No further reduction could be effected by the aid of the bellows. I therefore opened the abdomen in the middle line below the umbilicus, the incision being just sufficient to admit two fingers. I had no difficulty in hooking out the tumour which was an intussusception of the ordinary ileo-cæcal variety and was reduced without much trouble. After reduction the last inch of the ileum was found to be filled with a mass which felt like soft putty. This I endeavoured to break up and gently to squeeze through the ileo-cæcal valve but though it gave under the pressure of the fingers I was unable to persuade it to pass into the large intestine. Any prolonged attempt at doing so was contra-indicated by the state of the patient and we felt that there was not much risk of any violent peristalsis for some time. I therefore returned the bowel and closed the abdominal wound. At 11 P.M. the same night a motion was passed containing much blood-stained mucus and a little milk curd. Next day there were three movements of the bowels, each containing curdled milk. According to the mother there had been no constipation during the preceding three months; before that she had had much trouble in endeavouring to secure regular action of the bowels. Recovery was uneventful. The temperature never rose above 99° F.

I am much indebted to Mr. Martland for his valuable assistance.

Bloxwich.

NOTE ON A CASE OF RUPTURED VAGINA.

BY P. L. TOWNLEY, B.A., M.B., CH.M. SYD.

HAVING never seen or read of a case quite like the following I have considered it worth recording. On June 2nd last I received a telegram, "Mrs.—— in labour; pains suddenly stopped; great pain inside; flooding." I provisionally diagnosed ruptured uterus. Having 90 miles to ride I did not reach the patient's home until next day. On arrival I found a multipara, aged 45 years, obviously dying. Labour had commenced three days previously and about 48 hours before I saw her, during a pain, she had felt a tearing pain in the lower part of the abdomen, after which the labour pains had ceased. I was assured that she had not been interfered with in any way. The patient's abdomen was enormously distended, tender, hard, and tympanitic. A blood-stained, malodorous, thin discharge was coming from the vagina. A loop of pulseless funis was protruding from the vulva. I administered chloroform and on introducing my hand into the vagina found the placenta therein. This I delivered and tore through the cord. Further examination showed the uterus firmly contracted, empty, and unlacerated. Following up the cord, the hand passed into the peritoneal cavity through what had been the anterior vaginal wall. At the other end of the cord was a dead fœtus among the intestines. Of course, any operative procedure was out of the question but I thought it advisable, as the patient was anæsthetised and matters could not be made worse, to attempt delivery. I seized a foot and endeavoured to extract the child through the vaginal laceration. However, I was unable to get the head and shoulders past the symphysis pubis, where they became tightly jammed, so I divided the fœtus through the upper part of the thorax. The woman died about two hours afterwards. The child was at or about full term and was in no way abnormal.

Gayndah, Queensland.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ROYAL HANTS COUNTY HOSPITAL, WINCHESTER.

AN UNUSUAL CASE OF SUPPURATIVE APPENDICITIS.

(Under the care of Mr. H. J. GODWIN.)

A WOMAN, aged 32 years, was admitted into the Royal Hants County Hospital, Winchester, on Jan. 11th, 1904. She stated that she was in her usual health until a month previously, when she was seized one evening with severe abdominal pains, lasting the whole of the night. The pains were general all over the abdomen, being worse on the right side. She vomited several times. A few days after the onset of the attack she passed several gall-stones; these were seen by her medical attendant. She had suffered from constipation and flatulence for more than a year. She shivered on the night of the attack and had had night sweats off and on for the past two weeks. Constipation had been marked and there was slight pain on micturition.

On admission the patient looked ill. The temperature was 99° F. and the pulse was 100. The urine was of specific gravity 1025; it contained no albumin or sugar. The chest was normal. The abdomen was enlarged and moved on respiration. It was resonant all over and slightly tympanitic. On palpation nothing could be felt through the abdominal wall but the abdomen below the umbilicus was tender on deep palpation. Per vaginam there was a large swelling to be felt in Douglas's pouch. Rectal examination, which was painful, revealed a mass high up; this was soft and boggy to the touch and projected directly backwards. There was some slight vaginal discharge. This was not offensive.

The patient was given an enema and a considerable quantity of flattened fæces came away. On the day after admission she passed a considerable quantity of very offensive pus from the rectum and on examination the swelling that was felt on the day before had disappeared. The discharge of pus from the rectum continued for two weeks, the rectum being daily irrigated with saline solution. The patient rapidly improved, the temperature remaining normal, and she was discharged convalescent on March 3rd.

On April 6th, 33 days after the patient had been discharged from the hospital, she was readmitted complaining of abdominal pains, constipation, painful micturition, and night sweats, and stated that she had not been free from pain in the abdomen since she left the hospital in March. The temperature on admission was 99·4°, the pulse was 80, and the respirations were 24. On examination the abdomen was somewhat distended; it moved on respiration. It was resonant all over and slightly tympanitic. Nothing could be made out by palpation. Per vaginam a large swelling was found in Douglas's pouch which was painful during examination. Per rectum a large fluctuating swelling could be felt nearly obstructing the rectum, a good deal larger than the previous swelling that burst into the rectum.

On the day after admission, the patient having been prepared in the usual way, a large abscess was opened through the vagina, letting out a quantity of stinking pus, and the abscess cavity was irrigated and drained. This was washed out daily and packed with gauze until it had healed. The patient improved daily and the temperature remained about normal and never rose above 99°. On May 5th, one month after the abscess had been opened through the vagina, the patient, who was still confined to bed, complained of severe pain low down on the right side of the abdomen and in the back. The temperature rose to 101·4° and the pulse was 84. On examination the abdomen moved on respiration and was slightly distended. It was resonant all over on percussion except for a small patch of dulness on deep percussion in the

right iliac fossa and was tender on palpation over the right side. After consultation with several of his colleagues Mr. Godwin decided to operate.

On May 6th the abdomen was opened over the region of the appendix and everything was found to be adherent in the right iliac fossa. On separating the adhesions a little pus oozed from the lower part of the wound. The whole cæcum was firmly bound down to the iliac fossa by a thick mass of inflammatory tissue. This mass was separated from the iliac fossa with the cæcum, being firmly attached to the latter. Having freed the cæcum as far as possible the appendix was sought for. The posterior part of the cæcum was surrounded by this mass of inflammatory tissue and lying imbedded in this a hard substance like a concretion could be felt. On manipulation with the finger on each side of this concretion the appendix was felt and gently separated from the bowel to which it was adherent, lying in a curved direction round the circumference with its apex pointing downwards and inwards. The appendix, which was very much thickened and contained a large concretion, was removed. A gauze drain was inserted and the abdominal wound was closed in the usual way.

On examination of the appendix after removal it was a little over two inches in length, about as thick as an ordinary adult's little finger, and contained a large and hard concretion. No perforation or ulceration of the mucous membrane lining the interior of the appendix could be detected by the naked eye but the inflammatory tissue surrounding the appendix which was removed with it was rotten and friable. The concretion was so large that with the previous history of gall-stones, Mr. Godwin sent it to the Clinical Research Association to be examined, with the following report: "This concretion consists principally of calcium phosphate with a slight admixture of triple phosphate and a considerable quantity of hardened fæcal matter, mainly of a vegetable nature. Cholesterine is not present." The patient made an uninterrupted recovery and was discharged on June 14th quite well.

Remarks by Mr. GODWIN.—I publish the above case for the following reasons:—1. That Mr. A. A. Bowlby in an interesting clinical lecture reported in THE LANCET of July 9th, 1904, p. 61, on these cases, says: "I could multipy these cases and those of which I have seen where there has been a definite discharge of pus from the bowel. I have never had one of them afterwards in which it has been necessary to remove the appendix nor yet where I have heard that the patient has had another attack." 2. Had there not been a concretion in the appendix I believe that I should have missed it as it was so completely imbedded in old inflammatory material. 3. That after two attacks of suppurative appendicitis with abscess the appendix was removed intact as far as could be seen with the naked eye, in the third attack, all occurring within a period of five months. 4. That the removal of the appendix after the occurrence of an abscess seems to me to be just as important as removal of the appendix after an attack of non-suppurative appendicitis and this appears to be a point on which all surgeons differ. 5. That in seven cases of suppurative appendicitis on which I have operated within the last three months in all the appendix was only partially destroyed, in all I removed the appendix, and all recovered. 6. The uterus and appendages and ovaries were examined during the operation and found to be normal.

ROYAL EYE HOSPITAL, MANCHESTER.

A CASE OF UNILATERAL DACRYO-ADENITIS SIMULATING SARCOMA.

(Under the care of Dr. A. EMRYS JONES.)

FOR the notes of the case we are indebted to Dr. John Wharton, senior house surgeon.

The patient, a female, aged 21 years, was admitted to the Manchester Royal Eye Hospital with ptosis of the left lid of 14 days' duration. She had previously had good health and the family history was excellent. The vision and ocular movements were perfect. During the following 14 days a small, firm mass appeared in the outer third of the left upper lid. The lid became œdematous and the skin a dusky-red colour. The movement of the globe in an upward direction became impaired and the globe was displaced slightly inwards, downwards, and forwards. Iodide of potassium and fomentations were used and a search for pus was made with the needle but without result. On the fifteenth day there was marked increase of the pain (which previously had been slight) and during the following 48 hours the globe was pushed well forwards and downwards so that the lower half of the cornea and bulbar conjunctiva was exposed. The fundus at this stage showed congestion of the vessels and the vision was greatly diminished. The cornea quickly became infiltrated and ulcerated in 24 hours. There was marked chemosis of the conjunctiva. In the upper lid and in the position of the palpebral portion of the lacrymal gland a tongue-shaped firm mass could easily be made out and this appeared to be continuous with a mass situated in the upper and outer portion of the orbit. There was neither pulsation nor fluctuation present. On the eighteenth day the cornea perforated and there were three sharp attacks of epistaxis from the left nasal passage. At this stage the globe was immoveable. Throughout the whole duration of the illness the temperature remained normal. The lesion was considered to be a rapidly growing sarcoma of the left lacrymal gland.

The patient was transferred to the Manchester Royal Infirmary on March 18th of this year and the contents of the left orbital cavity were removed by Mr. W. Thorburn. The lacrymal gland was found to be much enlarged, firmly bound down to the globe, and imbedded in a dense fibrous orbital tissue. Microscopically the lesion proved to be subacute dacryo-adenitis (this was confirmed by Professor S. Delépine).

Remarks by Dr. WHARTON.—Dacryo-adenitis is sufficiently rare to justify the publication of the above case. The rapid growth, the epistaxis, and the fact that the enlargement only affected the left side showed its similarity to sarcoma and even microscopically it was not easy to differentiate between subacute dacryo-adenitis and small spindle-celled sarcoma. The rarity of this condition will be seen from the following figures taken from the reports of the Manchester Royal Eye Hospital for the last 21 years. Out of 28,000 in-patients there have been 34 cases of orbital tumour and of these three were cases of tumour of the lacrymal gland.

I have to thank Mr. Thorburn and Dr. A. Emrys Jones for their kindness in permitting me to report this case.

LEEDS GENERAL INFIRMARY.

TWO CASES OF CÆSAREAN SECTION.

(Under the care of Dr. J. B. HELLIER.)

CASE 1.—The patient, aged 25 years, married, was admitted into the Leeds Infirmary on Jan. 14th, 1904. She was short in stature and had rachitic curvature of femora and tibiæ. The pelvis was flat and generally contracted. The oblique conjugate measured three and one-eighth inches, the external conjugate about six and a quarter inches, the interspinous measurement was eight inches, and the intercristal was eight and a half inches. The estimated true conjugate was two and three-quarter inches. Six months before marriage she had suffered from vulval abscess. When, before labour, she applied for attendance in the outdoor maternity department she was urged to come into hospital when full-term approached in order that Cæsarean section might be performed, but she refused and did not agree to operation till labour had commenced. She was admitted on Jan. 14th, late in the afternoon, labour having commenced and liquor amnii having escaped and an unknown amount of vaginal examination having been made.

The operation was performed at 7.30 P.M. by Dr. Hellier assisted by Mr. H. Wales. Chloroform was administered. The abdominal incision was about six inches long, the navel lying in its centre. A corresponding median uterine incision was made, when the edge of the placenta projected into the wound on the left. The child lay with the head below and the back in front. It was delivered by the feet and proved to be a full term male child weighing seven and a quarter pounds and soon breathed normally. After delivery of the fœtus the uterus was drawn forward and an elastic cord was applied around the cervix. 11 silk sutures were placed in the uterine incision and then a continuous catgut suture was used to close the uterine peritoneal coat, thus burying the silk stitches. Sterilisation was effected by partial salpingectomy. The operation was well borne and there was very little hæmorrhage.

The abdominal wound healed by first intention. There was

very little secretion of milk and the child was not suckled. Some anxiety was felt about the patient from the fifth to the eleventh day because the discharge from the uterus became offensive. The pulse and temperature rose and on the seventh day she had a rigor and a temperature of 104° F. The uterus was irrigated with a solution of tincture of iodine and improvement speedily took place. Meanwhile her general condition continued good, there were no signs of peritonitis, the abdominal wound was quite healthy, and the temperature was normal on the eleventh day. She made a good recovery and was discharged cured on Feb. 11th.

The complication noted here might perhaps have been prevented if the patient had consented to enter the hospital before labour. This affords a much better chance of securing an aseptic genital canal at the time of operation and cases so circumstanced yield the best results. See, for example, the case quoted in THE LANCET of Jan. 9th, p. 76.

CASE 2.—The patient, aged 28 years, was sent to the infirmary from the workhouse hospital on June 20th, 1904, by Dr. J. Allan. She had been in labour for about 16 hours and the liquor amnii had escaped. She was four feet two inches in height with rachitic deformity of the pelvis. The oblique conjugate measured two and a quarter inches, the true conjugate about one and three-eighths inches, the interspinous measurement was ten inches, the intercristal ten and a quarter inches, and the external conjugate about six inches. On vaginal examination no presenting part could be recognised. The general condition of the patient was good.

Cæsarean section was performed by Dr. Hellier, assisted by Mr. H. Collinson. The uterus was rotated to the right so that the uterine incision was made nearer to the left side of the uterus than the right. The placenta was inserted on the anterior uterine wall, the edge projecting through the incision. It gave no difficulty. The fœtus lay with the head inferior and the back anterior and was delivered by grasping the pelvis and drawing it forwards. An elastic cord was not used and there was very little hæmorrhage. Salpingectomy was not performed. The operation was completed as in the last case and occupied 23¼ minutes. The child was a full term healthy male.

The abdominal incision healed by first intention and there were no symptoms at any time of uterine or abdominal mischief. The patient had an attack of broncho-pneumonia following the operation and the rise of pulse, temperature, and respiration on the second and third day occasioned some anxiety until the cause was diagnosed. The chest complication subsided satisfactorily and she was discharged cured on July 16th.

Remarks by Dr. HELLIER.—These two cases may be read in connexion with a clinical lecture on Seven Cases of Cæsarean Section which was published in THE LANCET of Jan. 9th, 1904, p. 76. In Case 2 ether was used partly by inadvertence. I prefer chloroform for operations connected with childbirth. In nine cases of Cæsarean section performed by me chloroform has been used in seven and ether in two, and in both these two broncho-pneumonia has supervened. I think that in records of other operators there has been noted a certain frequence of this condition when ether has been administered during Cæsarean section.

MOSCOW'S SICK AND WOUNDED FUND.—Moscow's allocation of 1,000,000 roubles to the expenses of dealing with the sick and wounded returned from the war proves to be insufficient and another 500,000 will have to be voted, says the *Novoe Vremya*.

NORTH-EAST LONDON CLINICAL SOCIETY.—This society (which meets at the Tottenham Hospital on the first Thursday in each month at 4 P.M.) will commence the session with a lecture by Sir Richard Douglas Powell on the Antiseptic Principle in Medicine to be delivered at the Tottenham Hospital on Thursday, Oct. 6th, at 4 P.M. All qualified practitioners are invited to be present. The officers of the session 1904–05 are:—President: Dr. R. Murray Leslie. Vice-Presidents: Dr. G. P. Chappel, Dr. F. H. Daly, Mr. Walter Edmunds, Dr. J. W. Hunt, Mr. E. Hooper May, Mr. J. S. Sequeira, Dr. F. J. Tresilian, and Mr. R. F. Tomlin. Council: Mr. J. Beddow, Mr. C. Billson, Mr. R. P. Brooks, Dr. R. E. Foott, Dr. E. A. Lermitte, Mr. G. A. Hunt, Dr. G. Norman Meachen, Mr. D. Petty, Dr. A. S. Ransome, Mr. T. Rushbrooke, Mr. A. S. R. Wainwright, and Dr. E. F. Willoughby. Honorary treasurer: Dr. A. E. Giles. Honorary librarian: Dr. A. J. Whiting. Honorary secretaries: Mr. H. W. Carson and Mr. C. E. Hutt.

Reviews and Notices of Books.

Arhythmia of the Heart: a Physiological and Clinical Study. By Dr. K. F. WENCKEBACH, Groningen. Translated by THOMAS SNOWBALL, M.B., M.A. With seven plates and 20 figures in the text. Edinburgh and London: W. Green and Sons. 1904. Pp. 198.

IT is a hopeful sign in connexion with physiological and clinical studies that busy practitioners in our provincial towns find leisure to prosecute these studies and to add important contributions to the subjects which they set themselves to investigate. The work before us confirms in large degree the well-known researches of Dr. James Mackenzie of Burnley, while the English version itself is the work of an erudite provincial practitioner, also of Burnley. We congratulate Dr. Snowball both on his enterprise and his success.

The work is divided into three unequal chapters. Chapter I. (pp. 1–29) deals with the Theory of the Myogenic Action of the Heart; Chapter II. (pp. 29–134) with Physiological Types of Arhythmia; and Chapter III. (pp. 157–180) with Clinical Types of Arhythmia. The arguments from development, phylogeny, experiment, and action of poisons for the myogenic theory of cardiac action are fully set forth and anyone wishing further information regarding the battle of muscle and nerve on cardiac soil will find still more details in the *Ergebnisse der Physiologie I.* by Biedermann and Langendorff, or in the numerous papers by Engelmann of Berlin. The author supports the myogenic theory and submits to sharp criticism the arguments of the supporters of the neurogenic theory, more especially those of Kronecker and Cyon. Full use is made of the "all or nothing" and "maximal contraction" of the heart discovered by Bowditch in 1871 and the refractory period of the heart observed by Marey in 1875. Engelmann in particular has used very extensively the method of "extra-systole" in his investigations. As bearing on the myogenic theory and perhaps also on the investigation of the inmost processes in the heart muscle cells themselves we are glad to see introduced to English readers a very full account of Loeb's remarkable researches on the action of "ions" on cardiac muscle, thus tending to bring the study of this subject more and more within the domain of chemical activity, and on this ground rendering the pharmacological action of chemical substances an important helpmeet in unravelling the mysteries of contraction, conduction, and rhythm. That cardiac cells are endowed with various properties we know, and it matters little whether we adopt the classification of these properties by Engelmann as *chronotropic*, affecting stimulus production; *dromotropic*, affecting conduction; *bathmotropic*, affecting excitability; and *inotropic* affecting contraction. All these properties, or any one of them, may be affected both positively and negatively. They are independent in nature and in magnitude. In this way we may compare the cardiac cells to gland cells which, under different conditions, give off a very complex secretion and, it may be in addition, an internal secretion. Let anyone but think of the marvellous mechanism of a liver cell with all its potentialities and the numerous chemical processes of which it is the seat and the varied products it forms and his view of cardiac myogenic activity will be expanded. This very independence of these cardiac functions makes it possible for such varied changes to occur in the heart, either as a direct myogenic change or one brought about by the influence of nerves, and helps to show how the heart can, by virtue of its inherent properties, preserve its rhythmical action even in the presence of many disturbing influences and how it can meet many different claims on it, while its peculiarities prevent strong stimuli from setting up an excessive action in the

heart in the way of a response corresponding to the magnitude of the stimulus, thus proving an admirable defence against the influence of passions and nerve storms on this citadel of life.

In the chapter on Physiological Types of Arhythmia it is shown that extra-systoles may occur in the mammalian heart—including that of man—as well as in the amphibian heart. The simplest case in a pulse apparently normal is when a beat is missed in an *intermittent* pulse. On auscultating the heart, while feeling the pulse, at the beginning of the intermission the heart gives apparently two beats in succession instead of one. The intermission corresponds to the compensatory pause. Each case of extra-systole must be studied by itself, as extra-systoles do not by themselves possess diagnostic significance and no conclusion can be drawn from their presence as to any particular form of cardiac disease; they show, however, that the heart is disturbed in rhythm and stimulated into extra contractions by abnormal agencies. In some individuals we have "irritable weakness" which manifests itself in organs other than the heart. A great class of extra-systole is produced by changes in organs unconnected with the heart or circulation—i.e., reflexly from the stomach or intestine, or from toxic substances in the blood. The doctrine of "heart block," or disturbance in conduction, is fully treated of by the author in support of his view on the numerous causes that produce allorrhythmia, and what holds true of the frog's heart in this regard seems to hold for the mammalian heart. The author asks what drugs have a beneficial effect on cardiac conduction? Even with all our knowledge of the action of digitalis the cardiac pharmacology of this drug still remains to be written. Each of the four fundamental properties of cardiac muscle is treated and it is shown how variations in these properties may lead to arhythmia, which necessarily must be as varied as its causes, and therefore of very unequal clinical significance. This leads the author to claim that there must be a new classification of the irregularities of the heart and a vigorous and logical attempt made—as is made in Chapter III.—to adapt our clinical notions to modern knowledge. He points out the misleading term known as "pulsus bigeminus" and several other terms as old as Galen and the Alexandria school.

We cordially commend the study of this work to medical practitioners, both for the value of its clinical observations and its careful *résumé* and criticism of modern experiments made on the hearts of animals, which prove a sound basis for elucidating the problem of cardiac pathology and arhythmia in all its forms. There is a short appendix on works published since the original book appeared as well as a good bibliography, but, unfortunately, there is no index.

An Introduction to the Study of Spectrum Analysis. By W. MARSHALL WATTS, D.Sc. Lond., B.Sc. Vict., F.I.C. With coloured plate and 135 illustrations in the text. London: Longmans, Green, and Co. 1904. Pp. 325. Price 10*s.* 6*d.*

THE spectroscope as an aid to human observation holds its own. Beside it the penetrating powers of the telescope and the microscope pale into insignificance. The telescope, it is true, has enabled us to make wonderful revelations, which are still more wonderful by the application of photography—the microscope has thrown a light upon the structure of things, but what are these achievements compared with an instrument which reveals to us not only the composition of the sun and stars but also the presence in the atom of electrons or, as Mr. Balfour calls them in his presidential address to the British Association for the Advancement of Science at Cambridge, electrical monads, thousands of which occupy the space of the atom. The principles of the spectroscope are at the outset well explained in the opening chapters of this book but the author evidently presupposes a knowledge of physics or at least of light and mathematics on the part of the reader for whom this book is written as an introduction to the study of spectrum analysis. Unless the reader posseses these qualifications we fear that he will get into difficulties as soon as he reaches p. 4 of the book in the chapter on How to Produce a Spectrum. The structure of the spectroscope is detailed and the advantage of introducing a series of prisms is explained. In Chapter II., which is all too short, the author deals with flame spectra which is that portion of the subject which concerns the analysts in the chemical laboratory who employ the spectroscope for the detection of elements. Chapter III. contains an account of the spectra produced by electric discharge through a vacuum-tube. Here the author might with advantage have included an account of the methods employed for filling the tubes with the gases under examination. In Chapter V. are described the method of producing a spectrum by the use of diffraction gratings and the measurement of wave lengths. Here, again, the beginner without a knowledge of light and mathematics will experience some difficulty in following the author. The rest of the book is practically devoted to the spectra of the stars and nebulæ. The author evidently shows a leaning to this section of the subject. From p. 185 to p. 310 inclusive are a comprehensive catalogue of the spectra of the elements and a table of standard wave lengths. The book will be valued, we are sure, by a certain class of reader but we had hoped from its title that the stepping-stones to the subject would have been more gradual than as they are actually presented.

A Practical Treatise on Nervous Diseases. By F. SAVARY PEARCE, M.D., Professor of Nervous and Mental Diseases in the Medico-Chirurgical College of Philadelphia. London: Sydney Appleton. 1904. Pp. 401. Price 14*s.* net.

AMONG the numerous introductory text-books of nervous disease in England and America which serve as stepping-stones to the advanced standard works of Gowers, Mills, and Dana, the present volume of 400 pages will occupy a useful and welcome place. It is written for the student and practitioner and its aspect is in general clinical and practical. Thus the chapters on anatomy and physiology, usually separated in most text-books of this class, are judiciously blended into one by Professor Pearce with benefit, we think, for the student. The opening chapter dealing with the general anatomy, physiology, and chemistry of the nervous system occupies 50 pages. In this brief compass all important facts are brought together such as are necessary to be known by the student of neurology. The style of description is clear and intelligible and the knowledge of anatomy and physiology conveyed in the text seems to be of a high order as regards accuracy and insight. The author is to be congratulated on the special excellence of this portion of the book.

The following chapters deal with clinical examination and methods of testing and case-taking. Here also a high level of teaching is maintained. The descriptions are clear and simple and no student should fail to understand what the author means. Next comes the treatment of nervous diseases generally, and in regard especially to hydrotherapy, massage, electricity, and hypnotism. The care of convalescents and the question of suitable climate are also dealt with briefly but ably. A systematic account is then given of the various diseases and disorders of the nervous system, cerebral and spinal. The symptomatic disorders such as vertigo, insomnia, neuralgia, headache, migraine, and Ménière's disease are well described,

as well as the affections of cranial and spinal, including peripheral, nerves. The rest of the volume, which occupies 230 pages, is devoted to an account of the special diseases, organic and functional, of the nervous system generally. Localisation of functions in the brain is illustrated by excellent diagrams, while the morbid processes which occur in the meninges or investing membranes of the brain and spinal cord are described at some length with several good figures. The diseases of the brain and cord which are next treated individually are illustrated nearly always with reproductions of photographs of the cases. We notice that among the general and functional diseases special attention is given to the various types of chorea, hysteria, and neurasthenia, these neuroses being dealt with at greater length than is usual in an introductory text-book. The toxæmic neuroses from alcohol, drugs, and metallic poisoning are also treated with adequate fulness of information. General paralysis of the insane is included among the list of nervous diseases and is well described, a tribute to the conventional usages of neurology, though this is a grave form of mental disorder which belongs to the realm of psychiatry.

Professor Pearce has written, on the whole, a book which though unambitious is, as we have indicated, likely to be welcome and useful, and the illustrations (91 in number, many of them in colours) and the general get-up of the book reflect credit on the publishers.

Anæsthesia in Dental Surgery. By THOMAS D. LUKE, M.B. R.U.I., F.R.C.S. Edin., Anæsthetist to the Dental Hospital and Instructor in Anæsthetics to the Royal Infirmary, Edinburgh, &c. London: Rebman, Limited. 1903. Pp. 178. 28 Illustrations. Price 5*s.*

THIS book comprises ten chapters and an index. It deals with the history of anæsthesia, nitrous oxide, ethyl bromide, and ethyl chloride, their combination with ether and oxygen; and local anæsthesia. Chloroform as an anæsthetic in dental operations is discussed and Mr. Luke opposes its use upon the ground that other agents are safer and render its employment unnecessary. Further chapters are devoted to Anæsthetics in Special Cases, Management of Prolonged Extraction Cases, and the Accidents of Anæsthesia. We gather that the author regards nitrous oxide given continuously through the nose as the best anæsthetic for dental cases when the operation is prolonged and that he does not regard the "gas and oxygen" method as possessing special advantages over nitrous oxide, save in a few pathological conditions. He, however, uses oxygen, allowing it to be inhaled from time to time when the symptoms indicate its use. In this way no complicated apparatus is needed. Mr. Luke is in favour of chloride of ethyl and gives clear rules for its administration. He employs a Clover's inhaler. With regard to other methods advised in this book it may be said that they harmonise with those in common use and described in the manuals. The scope of the volume is purposely restricted but so far as it goes it must be considered satisfactory for those in whose hands it will be placed. The descriptions and illustrations are clear and render it possible for the student to acquire the groundwork of his subject before assuming the rôle of anæsthetist. Mr. Luke has pronounced views which he states vigorously and his teaching is upon the whole sound, practical, and conclusive, although the book might gain by compression and some omissions and re-arrangement of the chapters. In the matter of literary style even a small manual is deserving of heedful care. The sentences in the book before us often extend to seven or more lines and as a result are confused and terminate abruptly. No doubt future editions will furnish the author with an opportunity of revising this side of his work and of correcting such slips as "nitrate of amyl"; "considerable skill and practice *is* needed to use the apparatus efficiently"; "it is possible to liquefy nitrous oxide with a pressure of 50 atmospheres at a temperature of 70° C." Of course, the temperature should be 7° C. Again, "Liquid N_2O—e.g., ·936—" we presume should read "—sp. gr. ·936."

It is a more grateful task to turn from considering the blemishes and to point out the merits of this little manual. Perhaps the greatest of these is the care with which the author has gone into detail with regard to the management of the patient and the anæsthetic during dental operations. In the case of chloroform, the use of which in these cases as we have said is deprecated, minute directions are given. These should prove serviceable in practice. In dealing with "accidents," although syncope and asphyxia are discussed, it seems to us that Mr. Luke might have elaborated the subject. It is commonly the minor troubles which puzzle the average anæsthetist and most of these may when recognised be readily removed. Total inversion (Nélaton) deserves mention. It is most valuable in non-toxæmic syncope, and Laborde's tongue traction—which, by the way, is ascribed to Lord Lister—is a measure which should only be used in serious danger on account of the severe damage to the tongue which its practice involves. We notice that on p. 144 "accidents" under chloroform, which the context seems to indicate were deaths under chloroform, are said to have occurred "in the hands of men like Simpson, Syme, Erichsen, Billroth, Volkmann," although we have always understood that Syme's proud boast was that he had never seen a chloroform fatality. Chloroform is spoken of as possessing dangerous qualities on account of "the capricious way in which it acts on different people." This was the finding of the "Glasgow committee" but we believe that the trend of modern thought in matters of anæsthetics is to relieve chloroform from the aspersion of possessing any capriciousness in its mode of action.

Lectures, chiefly Clinical and Practical, on Diseases of the Lungs and the Heart. By JAMES ALEXANDER LINDSAY, M.A., M.D. R.U.I., F.R.C.P. Lond., Professor of Medicine, Queen's College, Belfast; Physician to the Royal Victoria Hospital, Belfast; Consulting Physician to the Ulster Eye, Ear, and Throat Hospital, Belfast; Examiner in Medicine in the Royal University of Ireland; late President of the Ulster Medical Society. London: Baillière, Tindall, and Cox. 1904. Pp. 447. Price 9*s.*

THE lectures contained in this volume were delivered by Professor Lindsay at the Royal Victoria Hospital, Belfast. They are intended to raise and to discuss most of the problems of diagnosis, prognosis, and treatment which confront the practitioner in the field of thoracic disease. The object of this work, therefore, is essentially practical and it will be found that the clinical standpoint has been adopted throughout.

Lectures I. and II. are not directly concerned with diseases of the lungs and heart but deal with the theory of clinical observation and the philosophy of medicine in general. The lecture on Pleurisy is admirably compiled and will well repay careful study. The relation of pleurisy and tuberculosis is entered into very fully. It is now generally admitted that this relation is much more intimate than was formerly supposed and Professor Lindsay carefully considers the evidence which has accumulated in favour of the belief that a large proportion of cases of pleurisy are tuberculous in origin. Professor Lindsay, however, does not adopt the dictum that acute pleurisies are for the most part of this nature and maintains that such a statement does not rest upon any secure pathological basis and is not easily

reconciled with clinical facts. The ultimate prognosis in cases of apparent idiopathic pleurisies is of considerable importance when an individual presents himself for examination for life assurance with a history of having suffered from pleurisy some years previously. Professor Lindsay maintains that such cases may be accepted at ordinary rates if two years have elapsed since the attack of pleurisy and if the general health, pulmonary expansion, and weight are satisfactory and provided that the habits and mode of life are favourable. We do not think, however, that this view will meet with general acceptance.

We recommend to the notice of our readers Lecture VII. which is headed "Conditions which simulate Pulmonary Phthisis." It is to be regretted that the term "pulmonary phthisis" has been retained, "pulmonary tuberculosis" is more exact and explicit, but this phraseology does not detract from the general excellence of Professor Lindsay's remarks on the differential diagnosis of the disease. He recognises three groups of cases: (1) diseases which may closely simulate "pulmonary phthisis" but which, owing to their infrequency, give rise to little difficulty in practice —viz., actinomyces, malignant disease, and syphilis; (2) diseases which simulate tuberculosis but in which, owing to well-marked differences in history, symptoms, and physical signs, the differential diagnosis is, as a rule, easy —viz., pulmonary collapse, bronchiectasis, and pulmonary embolism; and (3) a group which may closely simulate "pulmonary phthisis" and in which the differential diagnosis often presents great difficulty—viz., bronchopneumonia, pleurisy, bronchitis, asthma, anæmia, and neurotic dyspepsia. It is naturally to this third group that Professor Lindsay principally directs his remarks and many useful suggestions are made.

In discussing the treatment of pulmonary tuberculosis some apt observations are made as to the meaning of the word "cure" when applied to this disease. Professor Lindsay asserts that by "cure" in this connexion must be understood not an absolute *restitutio ad integrum* (which he maintains is a very rare event) but rather the complete restoration of the general health, with abeyance of all symptoms, restitution of average working power, and locally the signs of a limited and quiescent lesion. We believe that this definition will be generally accepted. Some authors when discussing "hæmoptysis" mention many conditions other than pulmonary tuberculosis which may bring about this symptom. We entirely agree with Professor Lindsay, however, in insisting that if heart disease and blood dyscrasias can be excluded there is a strong probability that tubercle is the cause of the hæmorrhage. We corroborate his opinion that nearly all attacks of hæmoptysis where no other obvious morbid state coexists are due to pulmonary tuberculosis. In a lecture entitled "Therapeutic Problems in Pulmonary Disease" the treatment of asthma is discussed. Most physicians will probably agree with Professor Lindsay in naming iodide of potassium and arsenic as the most useful drugs in the therapeutics of asthma. We are surprised, however, to find no mention of compressed air baths amongst the remedies adopted in the treatment of this disease; these baths have afforded excellent results in the hands of some observers.

The lectures on Physical Examination of the Heart, Physical Diagnosis of Cardiac Disease (Cardiac Murmurs), and Physical Examination of the Blood-vessels contain numerous suggestions and valuable advice as to the clinical study of individuals who present symptoms suggestive of cardiac disease.

Patients frequently consult a physician, stating that they have "heart disease"; on questioning them, however, it will be found that it is their own diagnosis and fortunately it is usually wrong. The symptoms of cardiac disease are multiform and the majority of them are referred to other viscera, whilst affections of other organs (notably the stomach) produce symptoms which the laity believe to be caused by disorders of the heart. The lecture on the Study of Cardiac Symptoms indicates the multitudinous phenomena which may present themselves when the heart is diseased. The classification adopted is necessarily a lengthy one but we believe that it will be found useful for clinical purposes.

The lectures on the Diagnosis, Prognosis, and Treatment of Affections of the Heart will all be found interesting. Professor Lindsay has adopted the useful plan of providing a summary of each lecture; this greatly facilitates reference. We offer him our congratulations on having written a valuable and instructive work.

Atlas zur Vergleichenden Histologie der Wirbelthiere. (*Atlas of the Comparative Histology of Vertebrates.*) With Explanatory Text on the Basis of the Researches and Original Preparations made and drawn by N. LOEWENTHAL, Professor of Histology in the University of Lausanne. Containing 51 plates with 318 figures. Berlin: S. Karger. London: Williams and Norgate. 1904. Pp. 109. Quarto. Price £1 16*s.*

THE author of this well and liberally illustrated work states in the preface that he does not intend it to be a complete treatise on histology and has not therefore copied from other writers and draughtsmen. He has rather sought to place before his readers a large number of drawings which in the course of his long experience in the domain of microscopical research have accumulated on his hands and to which he has added something more in the way of text than a mere reference to the lettering of the figures. The drawings have been in all instances made by himself from successful preparations and out of the 318 only ten have been previously published. The subjects illustrated embrace cartilage, bone, connective tissue, muscle, nerve, spinal cord and brain, epithelium, ovum, spermatozoon, gland tissue, vessels, and blood. The staining and other proceedings employed in the preparation of the specimen are described in each case as well as the magnifying power used. The specimens were derived from many different sources, as from the frog, triton, lizard, tortoise, bird, rabbit, rat, hedgehog, and man. The drawings representing cartilage show that in some sections of the head of the femur of the triton the superficial cells give off long branched fibres which run parallel to the surface, whilst in other sections islands of cartilage are seen which the author suggests indicate that a direct conversion of cartilage into bone may take place, the cartilage cells becoming osteoblasts. In the sclerotic cartilage of the tortoise treated with alcohol, alum, carmine, and glycerine the cells of the deeper part near the choroid contain numerous dark-brown or black pigment granules, whilst those in the cartilage of the trachea of the rabbit present oil drops which are coloured black with osmic acid. Many figures represent sections of parts which possess exceptional interest and are not commonly illustrated in histological works. Thus in different figures are shown cells derived from the decidua vera of a pregnant human uterus, others from the Pacchionian bodies, and others again from the corpuscles known as those of Grandry, Herbst, and Meissner. Sections of pineal gland and pituitary bodies are figured and there are numerous drawings, all delicately executed, of various parts of the nervous system in man and animals.

The explanatory comments on the figures in the plates are frequently of considerable interest and as an example we select one that accompanies Fig. 3, Plate XL., which represents a Graafian follicle of exceptionally large size taken from a blindworm treated with Kleinenberg's fluid and stained with hæmatoxylin. It had a diameter of 525 μ. The drawing represents the appearances seen under a magnification of 270. "The amorphous constituents of the nucleus,"

Professor Loewenthal says, "have increased considerably (as compared with the preceding drawing which represents an earlier stage), whilst the nuclear filaments have retrogressed and become broken up so that in the centre of the nucleus there is a small portion which appears to be formed of a heap of granules. These granules appear to be in part independent and isolated but in some instances attached to short fibres of granular aspect that a comparison with an earlier stage shows to proceed from the nuclear filaments. In the larger remaining portion of the germinal vesicle two not sharply differentiated zones may be observed—an internal coarsely granular zone presenting numerous bodies resembling nucleoli surrounded with a clear border or margin, and an internal, clearer, and more finely granular zone. The sheath or investment of the nucleus is also to be noticed. The space between the membrane of the nucleus and the contents of that body seen in the figure must be regarded as the result of manipulation. There is still another point to be noticed. External to the nuclear membrane there is a layer having a thickness of from 2·7 to 10 μ, which is sharply differentiated from the yelk and, if not a true membrane, is at least a special layer of the yelk. This layer presents a more or less radial striation and the nuclear membrane cleaves to it more firmly than to the nuclear substance itself; hence in shrinking the nuclear substance separates from the layer and a space intervenes between the two." This account describes the features of a beautifully executed figure and is only one of many. The work should be in the possession of, or consulted by, all histologists.

LIBRARY TABLE.

Diet and Food Considered in Relation to Strength and Power of Endurance, Training, and Athletics. By ALEXANDER HAIG, M.D. Oxon., F.R.C.P. Lond. London: J. & A. Churchill. 1904. Pp. 138. Price 2*s.* net.—In the preface to this little book, the fifth edition, the author writes that the interval which has elapsed since the last edition was issued has only served to deepen his conviction of the importance, mental and physical, which attaches to the right understanding of dietary questions. As mind is a function of the body and the body is dependent on the material at its disposal for the purpose of stability and renewal it is obvious that each power must be dwarfed or destroyed when the instrument of its manifestations is impaired. Experience and experiment strengthen the author's belief that in adopting the stimulative forms of diet the race entered upon a path which could only lead, as it has done, to the mental and physical diseases which now baffle the scientific man and the moralist alike. These pages, he says, are written in the hope that he may make clearer the position that diet holds in relation to matters of strength and nutrition and to attempt the alteration of people's diet so as to free it from the poisonous xanthins and uric acid. The four chapters into which the book is divided treat of Some Points in the Physiology of Albumin and Urea; of the Physiology and Pathology of Fatigue; of Foods Available: their Properties and Relative Importance; and of Values of Foods in Albumin and Urea, Quantities Required, Diet of Training and Athletes. The author classifies the uric-acid-free foods into the following groups: (1) milk and milk products, as cheese; (2) breadstuffs, cereal foods and glutens; (3) nuts and nut foods; (4) garden vegetables, as potatoes; (5) garden fruits, as apples; and (6) dried and foreign fruits. By the combinations of foods which he recommends Dr. Haig has reduced his own uric acid turnover from about 20 grains per day to a little over ten grains per day, with the result that he is now practically free from the diseases from which he formerly suffered. Tables are given showing how the required albumins can be obtained from a diet of breadstuffs, fruit, vegetables, milk, and cheese, from breadstuffs alone, and from a diet consisting of milk and cheese, fruit and vegetables, the latter a convenient one for people who desire to be almost independent of cooking. A scheme is also given for gradually altering the diet. Dr. Haig says that the vegetarians of this country would be better still if they not only ruled out animal flesh but also eggs, the pulses, asparagus and mushrooms, as well as tea, coffee and cocoa, all of which contain a large amount of uric acid or substances physiologically equivalent to it. The book throughout conveys the impression of the sincerity of the writer in his belief, but as we said in reviewing the fourth edition in our issue of Feb. 7th, 1903, we do not think that the human machine is such an automaton as Dr. Haig implies.

A Medical History of Prisoners of War in Ceylon: 1900-1903. By ALLAN PERRY, M.D. Durh., D.P.H.R.C.P.S. Lond.; in medical charge of the prisoners of war. Colombo: George J. A. Skeen. 1904. Pp. 36.—The information contained in these pages is compiled from the author's official reports to Government on the health of the prisoners and from reports published by the officers of the Civil Medical Department in charge of the various camps. For the number of prisoners and some other details the author has availed himself of the report by Lieutenant-Colonel A. C. F. Vincent, C.M.G., the commandant. The duties thrown on the Civil Medical Department by the advent of the prisoners were numerous, heavy, and responsible. The professional staff performed the extra work in connexion with the Boer camps with efficiency and enthusiasm and without any interference with the ordinary departmental routine. The main camp was at Diyatalawa and all permanent buildings were made of corrugated iron. Five subsidiary camps were subsequently used, where the medical and sanitary duties were performed by the Ceylon Civil Medical Department assisted by two officers of the Royal Army Medical Corps. The prisoners of war at Diyatalawa were represented by 27 nationalities. The general tone of the camp at first was one of deep depression which was intensified by the meteorological conditions and accentuated by an over-indulgence in religious exercises. A severe epidemic of measles and two epidemics of enteric fever occurred at Diyatalawa; the other camps were free from epidemic disease. The general health of the prisoners was on the whole good, and the sick- and death-rates would, the author says, compare favourably with those of any similar body of men placed in similar circumstances elsewhere. The prisoners were remarkably free from venereal diseases, the reason being that most of the men had lived pastoral lives and did not come from towns. There were no instances of the later manifestations of the disease contracted in early life. The suspicious character of the Boers was brought into prominence in connexion with surgical operations. This small history is an interesting one. A folding map of Diyatalawa camp is included in the book.

Practical Materia Medica for Nurses, with an Appendix. By EMILY A. M. STONEY. Second edition. London, Philadelphia, and New York: W. B. Saunders and Co. 1904. Pp. 300. Price 8*s.* net.—This, the second, edition of this book has been largely rewritten. While the arrangement of the subject matter has not been changed numerous alterations and additions have been made in order to bring the book up to date and to make it a more complete guide to those engaged in nursing. The author was formerly superintendent of the training school for nurses, Carney Hospital, South Boston, and the book constitutes a companion to her other work "Practical Points in Nursing." It has been made as practical as possible. The first of the three parts into which the book is divided is devoted to

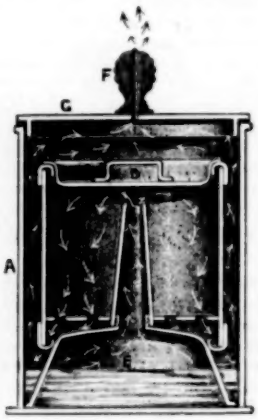
the general consideration and classification of drugs; the second part to the subject matter proper of the lectures; and the third part, or appendix, treats of poisons and their antidotes, emetics, mineral waters, weights and measures, and gives a dose-list and glossary. The doses of all drugs are given in both apothecaries' and metric weights. The book is a sound one, the subject matter is well arranged, and the information given is such as is well suited to be helpful to nurses in carrying out their duties.

Laws of Health. McDougall's Educational Company, Limited. 1904. Pp. 80. Price 6*d.* net.—The first 22 pages of this little book are devoted to a description of the structure and functions of the body. The second chapter deals with the composition and chief impurities of air and water. Subsequent sections treat in turn of food, the proper care of the body, ventilation, heating and lighting, drainage (including the removal of refuse), the spread of diseases, and first aid. The whole tone of the book is judicious. It is very simply written and it contains a mass of information that will be useful to all classes of the community. The wide spread of such knowledge will add health and happiness to all homes where it is rightly appreciated. There is a useful index, so that the subject matter may be quickly referred to and the illustrations are clear.

New Inventions.

A NEW STERILISER FOR SURGICAL DRESSINGS.

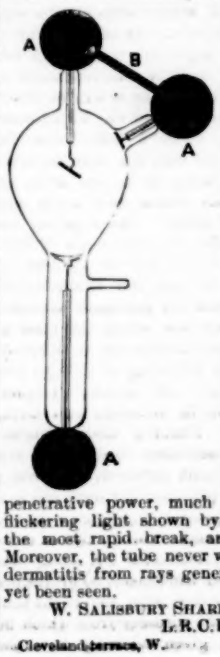
THE apparatus shown in section in the accompanying illustration is not intended to compete with large hospital sterilisers but only to be used by surgeons performing operations in private houses where it is difficult to obtain really sterile dressings and towels. It consists of an outside can, slightly over nine inches high and seven inches in diameter, into which there fits tightly (only removeable for cleaning) an inverted funnel (E). The cover (G) closes the can. The outside can (A) contains the dressing can (B), which has an air-tight lid (D), provided with a handle and also has an opening in the bottom, with a tube rising therefrom fitted with a screw by means of which it can be attached to the funnel (E) as shown in the illustration. The bottom of the dressing can is perforated and its sides are prolonged past the bottom so as to receive an extra lid which, when placed in position, closes the bottom of the can completely. The whole is strongly made of copper, tinned on the inner surfaces and when empty weighs six and a half pounds. The necessary amount of water for three quarters of an hour's boiling is one and a half pints and any small Bunsen's burner or oil or spirit lamp, or even an ordinary kitchen range will boil it readily. When the dressings and (if thought desirable) instruments have been packed in the dressing can the upper lid (D) is closed and the can is screwed into its position within the outer can (A), as shown. The extra lid is put in on the top (where room for it is provided, not shown in the figure) and the outer cover is closed. The water should previously have been made hot and when it boils the steam follows the course shown in the figure and thoroughly permeates the whole of the contents of the dressing can and finally comes out through F. I think it is wise to take as the commencement of the time of sterilising the moment when there is a column of transparent steam at least six or eight inches high issuing from F. When a sufficient time has elapsed the outer cover is removed, the extra lid is carefully lifted by its edges and placed with its tinned side upwards upon a flat surface; the dressing can is then unscrewed, lifted out and pressed down upon it. The dressings or other articles are then inclosed in an air-tight box and can be carried in an ordinary surgical bag to the bedside and need not be opened until actually required. The size which Messrs. Allen and Hanburys, Limited, of 48, Wigmore-street, London, W., have made for me I find to be the most convenient. It is large enough for small operations and for larger ones it is really more convenient to have two dressing cans, the first with towels and preparatory material, and the second with the dressings and bandages, and on their top the sutures, &c., for closing the wound. A larger size could also be made if required. I usually prepare my dressings the day before. It will be seen from the above description that the dressings remain untouched within the case until they are opened by the surgeon or nurse at the time of using. The price of the steriliser, complete, is £2 2*s.*



Burton-on-Trent. EDWARD C. STACK, F.R.C.S. Irel.

AN IMPROVEMENT IN X-RAY TUBES FOR USE WITH STATIC MACHINES.

IT is common knowledge that powerful static machines are capable of exciting an x-ray tube in such manner as to give off absolutely steady rays of great brilliancy as regards screen work and of good penetrative power. But the difficulty has always been that the rays are apt to decline suddenly in power and the current to find any other path rather than that through the tube. To obviate this difficulty I have contrived the simple device here shown. It consists of a brass ball of fair size A (an inch and five-eighths in diameter on my own tube) fitted over each terminal of the ordinary bianodal tube, the anode and anti-cathode being connected by a piece of stout round brass rod B (three-eighths of an inch in diameter), thus supplying terminals of very perceptible electrical capacity and at the same time doing away with all edges, salient angles, and points of metal from which leakage formerly took place. The tube is connected to the machine by means of thickly insulated wire fitted with a fair-sized brass ball at each end, and these need not quite touch either the terminal knobs of the machine or those of the tube. By this means I obtain from my machine (a 12 plate, 30 inch Wimshurst) rays as steady as the light of an incandescent lamp, of great brilliancy and penetrative power, much less trying to the eyes than the flickering light shown by those from a coil with any but the most rapid break, and quite constant and reliable. Moreover, the tube never works hot, and I understand that dermatitis from rays generated by a static machine has not yet been seen.



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Cleveland-terrace, W.

THE LANCET.

LONDON: SATURDAY, OCTOBER 1, 1904.

Ante-natal Nurture and Physique.

IN this week's issue of THE LANCET we publish a letter from Dr. HENRY ASHBY which raises a question in the etiology of physical degeneration which is of fundamental importance. Briefly stated, Dr. ASHBY'S contention is that the health and vigour of the offspring are, to some extent at least, determined by the standard of nutrition obtaining in the mother during the period of pregnancy. He further appears to take exception to the prominence which he considers that we gave to the evidence of Professor D. J. CUNNINGHAM and of Dr. EICHHOLZ in our summary of the report of the Inter-departmental Committee on Physical Deterioration. In this summary, which appeared in THE LANCET of Sept. 10th, p. 785, we admit that we gave a fuller account of the evidence of the two witnesses referred to than we did of that of others who were under examination before the committee at the same time and in reference to the same subject—i.e., the influence of hereditary taint. We must disclaim, however, any wish to bias the issue or to emphasise unduly the views expressed either by Professor CUNNINGHAM or by Dr. EICHHOLZ. We believed, and still believe, that the opinions of these witnesses were of sufficient importance to deserve publicity and possibly to evoke criticism; in this latter belief we have not been disappointed, as is evidenced by the letter from Dr. ASHBY to which we have referred. In the official report it is stated that "Dr. EICHHOLZ was disposed to go further and sought to explain how some mysterious law of transmitted impulse made for the recuperation of each generation, the unborn child fighting strenuously for its own health at the expense of the mother." To this view, as also to the opinion of Dr. EICHHOLZ "that most children were born physically healthy, whatever the condition of the mother might be antecedently," the committee evidently did not entirely subscribe, for in paragraph 249 of the report the following appears: "The committee cannot ignore these opinions though it may well be that the depressing effects of the life struggle on parents are nevertheless in some measure transmitted to the offspring."

Discussion on the subject of maternal influence on the development of the embryo, as also on the closely allied subjects of the inheritance of acquired characteristics, of the etiology of congenital malformations, and of maternal impressions, very frequently brings the practical physician into direct conflict with the trained biologist. The physician at times has unique opportunities for making practical observations on these very subjects. The biologist, on the other hand, objects that the deductions which medical men are apt to draw from these observations are opposed to elementary biological principles. And so the matter stands, for the experimental evidence which biologists adduce in support of their theoretical contentions is open to just as much criticism as are the deductions made by medical men from their clinical experiences. If, however, the official report correctly represents Professor CUNNINGHAM'S evidence before the committee, and the latter actually expressed "the firm belief that diseases such as syphilis and alcoholism transmit their effects to the third and fourth generation," it is difficult otherwise to interpret his meaning than that in his opinion acquired characteristics can be transmitted. This is a far bolder admission than simply to allow that the general nutritional condition of the mother can influence the general nutritional condition of the fœtus in her uterus, and yet if we understand him aright this is all Dr. ASHBY claims, but apparently it is with this very belief that Professor CUNNINGHAM is in disagreement, for once again, to quote the official report, "Professor CUNNINGHAM'S views that inferior bodily characteristics the result of poverty and not of vice are not transmissible were confirmed ....." If it be admitted that the effects of alcoholism and of syphilis can be transmitted to the third and fourth generation it is no great assumption to allow that other pathological states due to perversion of metabolism may be similarly transmitted.

Dr. ASHBY instances the observations and experiments of Dr. NOEL PATON and of Dr. PROCHOWNICK on the influence of maternal diet on the size and vigour of the fœtus and to these we might add the experiments of Dr. LAHMANN and of others whom the latter quotes in support as substantiating the same view that the mother's nutrition does affect the child. Owing to the analogy between the method of growth of reproductive and embryonic tissues on the one hand and that of tumours on the other, and owing to the admitted potentialities of the latter for living on the tissues of the organisms in which they grow, it might on theoretical grounds be assumed that the fœtus in utero would have similar parasitic tendencies to thrive at the expense of its host. Experimental evidence, however, does not seem to warrant this view, for investigations on the effect of food in the case of guinea-pigs during pregnancy indicate that the embryo suffers in greater proportion than the mother when the supply of nourishment is insufficient. It should, however, be borne in mind that the *apparent* condition of health of the fœtus at the time of birth is often most deceptive. For instance, the offspring of alcoholic parents are not infrequently large and apparently well nourished and yet their subsequent history proves that they possess little inherent resistance to disease and that their satisfactory nourishment is a matter of the greatest difficulty. Until the relationship between the health of the mother and that of her offspring is more satisfactorily settled it would be safer—on the principle of BARRIE'S Thrums atheist who made a practice of attending regularly at church "in case, after all, there might be a God"—for all of us, whether we agree with Dr. ASHBY or not, to act as if we did.

The Control of the Sale of Potable Spirits.

WE are of opinion that there ought not to be any difficulty whatever in finding a perfectly clear and reasonable definition for every kind of spirit consumed by the public. Genuine brandy, whisky, and rum are not merely alcohol and the purchaser does not call for alcohol when he asks for any individual member of the series. If he did the *raison d'être* of the nomenclature in regard to spirits would disappear. By means of the terms brandy, whisky, rum, and gin these spirits are differentiated into alcoholic liquors produced from different materials, each exhibiting the specific flavour of the material employed. Moreover it is not only a matter of flavour, for most persons have sufficient intelligence to know why at one time they consider brandy more suitable than whisky or *vice versâ*. The point is that the terms whisky, brandy, rum, and gin have a special meaning and indicate practically the source of the spirit and certain representatives of the spirit trade must be brought to understand that this meaning cannot be stretched so as to include a spirit produced from any material. If the basis of all alcoholic beverages is to be plain alcohol, patent or silent spirit, then these differentiating terms may as well drop out of usage. The practice of attenuating genuine spirits with cheap silent spirit has been growing enormously during recent years and it is time that some effective control over the practice should be instituted. Although they may discount the value of analysis as it suits certain sections of the trade to do, they cannot blink the fact that analysis has disclosed to the public the existence of an appalling amount of fraudulent misrepresentation, sufficient, in fact, to call for rapid reform. In the case of brandy proceedings taken under the Sale of Food and Drugs Act have happily succeeded and the result has been a very violent shock to a certain section of the trade. In almost every public-house in the country notices are now posted to the effect that the brandy sold cannot be guaranteed to be entirely grape spirit. The retailer has, no doubt, received his instructions from those who "tie" his house. Good, so far, has been done, inasmuch as it is disclosed to the purchaser that the stuff which he buys has more than a suspicion cast upon it by the notice which is displayed by the seller. If only all purchasers would refuse to be served with any but the genuine article the business of those who approve and carry out the disclosure system would, we fancy, quickly diminish. It is quite obvious that the disclosure system is calculated to defeat the ends of the Sale of Food and Drugs Act unless the seller is compelled to stock the genuine article and to serve it when it is demanded. When a seller is forced to declare that the brandy which he sells cannot be guaranteed to be genuine brandy, the whisky genuine whisky, the rum genuine rum, and so on, surely it is near to the realisation of a *reductio ad absurdum*.

At Stockport last week an important case was heard in which two publicans were summoned for selling rum not of the nature, quality, or substance demanded inasmuch as it contained, according to the certificate of the analyst, between 70 and 80 per cent. of silent spirit. It was denied by the witnesses for the defence, who included scientific experts and sugar planters from Demerara, that the sample of spirit in question contained silent spirit. In fact, according to one witness, the suggestion was absurd. In the face of this another witness, a sugar planter, described in detail the manufacturing process and said that the product of the Coffey still was rum and nothing else but rum. Now, since the Coffey still produces nothing but silent spirit, it is difficult to understand why the bench dismissed the case. The Coffey still just as much robs rum and brandy of the characteristics which distinguish these spirits and which give them their peculiar individual properties as does the separator rob milk of its cream. Genuine rum is probably the most powerfully stimulating spirit that we possess and it is doubtless this fact, *inter alia*, which led to its use in the navy. Rum-and-milk, again, is admittedly one of the most powerful restoratives known, but the rum must not be merely alcohol of the degree of purity produced in the patent still. It must contain the full complement of ethers which rum produced from sugar or sugar residues in the pot still retains. Genuine pot-still rum undoubtedly owes its restorative properties to the very marked amount of ethers which it contains and therefore when a spirit is supplied showing a deficiency in the essential ingredients of rum it is not of the nature, quality, or substance demanded. The decision in the Stockport case is regrettable, for there is little doubt that rum is very extensively adulterated. Genuine rum should be a pot-still spirit produced from the fermentation of cane sugar or sugar residues. To qualify it even by such names as Demerara is inadmissible, unless it be clearly stated in addition that it is a patent as distinct from a pot-still spirit. That is the crux of the whole question, for if the trade would only adopt an honest label and would not shrink from printing upon it the truth about the spirit as to whether or not it were a pot-still spirit, there would be an end of the matter and its members would no longer have a chance of complaining of vexatious proceedings being taken against them.

The fact is that the introduction of the patent still brought with it a means of economically manufacturing relatively pure alcohol and the temptation to which so many have succumbed is to substitute this for genuine pot-still spirit to which designation brandy, whisky, and rum properly belong. This practice of substitution and of fraudulent misrepresentation in the spirit trade demands a serious system of control and it would appear that in its present form the Sale of Food and Drugs Act needs strengthening in order to deal effectually with this system of fraud. Nevertheless the Act has already revealed the existence of fraudulent practices, but undoubted assistance would be given to this important section of health administration if a court of reference could be formed to which all food and drink questions of this kind could be referred. It seems highly desirable also in the interests of the public health, as was only too well illustrated in the case of the contamination of beer by arsenic, that a special officer should be appointed by the Local Government Board to make inquiries into the processes of manufacture of foods and drinks in this country and also to obtain information so far as is possible concerning foods and drinks made and imported from abroad.

After the Holidays.

THE luggage-laden cabs and station omnibuses which as we write are by the score returning their weather-beaten occupants to the daily routine of workaday existence once again prompt the question, Do we derive such advantage from the holidays as these potential interludes of rest are capable of affording? It is perhaps rather for the individual than his medical adviser to decide whether from the point of view of enjoyment there is any commensurate return in exchanging the known comforts of the home for the problematical advantages of a feverish month's stay in a so-called health resort; but it is clearly for us, whose avowed aim it is as medical men to compass our own extinction by the conquest of disease, to consider whether these annual pilgrimages are conducted in the best possible manner to further our suicidal efforts. From one standpoint it is clear that these holidays, howsoever conducted, are genuinely advantageous, and this is that they afford an interval for recuperation to those overworked centres of the organic machinery on which the stress habitually falls. The premature shabbiness of the stair carpet if the tread is not changed at the annual spring cleanings and the want of smartness of the coat which is worn day after day without interruption offer homely but perhaps apt illustrations of the organic attrition which soon cripples the man who works too continuously in the same monotonous groove. Viewed from this economic standpoint the annual holiday must be regarded as little else than a wise precaution. The immediate fate, however, of the man who returns to town at the conclusion of his month or six weeks' holiday, sunburnt and "hard as nails," is so frequently unfortunate that it is quite justifiable to inquire whether there is wisdom in spending the holidays as they are usually spent, or whether by some carelessness or folly immediately on their conclusion we do not deprive ourselves of the advantage which we might otherwise have secured from them. In spite of our sunburnt and hard condition most of us within a week of our return take what, for want of a better term, is called a "chill." The manifestation of this inflammatory condition usually takes effect in the weakest organ and as often as not compels a temporary confinement to the house. The pathology of these chills presents a problem which the medical profession annually attempts to solve, but so little convincing have been our arguments that year after year we find ourselves mounting on the stepping-stones of our defeated explanations to new and more daring flights of pathological speculation. At one time we had almost convinced ourselves that the physical strain of that excessive athleticism which usually characterises the holiday season was the key which opened the door to the invasion of disease. At another time we had come to the conclusion that holidays spent in the relatively germ-free atmosphere of health resorts might deprive us of that immunity which the rich bacteria flora of London not only necessitates but imparts. Consequently when holiday-makers return to the metropolis deprived of the immune bodies, anti-toxins, and complements which it is their privilege as inhabitants of London to possess they fall easy victims to the very germs which in virtue of their usual immunity they can habitually resist.

We live, indeed, in an age of so-called physical culture and physical deterioration, but the cynic may be excused for questioning which were the greater evil—to live in harmony with our urban surroundings in a so-called condition of physical unfitness, or sunburnt, "hard as nails," and in the pink of condition to pay the penalty of our physical superiority with a chill of the nature which we have described. According to our latest conviction the truth of the matter is somewhat as follows. There is one standard of physique which is suitable for urban conditions and another which meets the requirements of the country. The man on his holiday adapts himself to his new and more salubrious surroundings and rises to the occasion by the reacquisition of powers which belong not to the town. Again, on his return home at the end of, say, a month's holiday to the ordinary occupations of town life he descends from his platform of physical superiority and by stages, more or less sudden, sinks to the lower level which his normal environment enjoins. During the moments of his ignominious descent there is, as it were, an involution of organs and muscles, and this process following the general laws which govern all involuting organs or organisms imposes a lower standard of vitality and a feebler resistance to disease. It is then that the man catches cold. If these views be well founded it is quite clear what the invigorated citizen should do and what he should leave undone when he returns to the asphyxiating conditions of London life. He should bring himself by easy and gradual stages into harmony with his environment. All exercise should not be suddenly dropped as if it were something peculiar to rural life; fresh, or at least open, air is now even more important than before and the table habits of the country should be dropped for those which are physiologically adapted to a more or less sedentary life. The organism ever resents violent and sudden changes; great efforts at accommodation induce pain and illness. The man who returns from his holidays brings with him a body in which the vital activities are elevated in proportion to the amount of exercise that he has been able to take, the purity of the air which he has breathed, and the vigour of his appetite; but if he wishes to avoid the so-called chill which reduces his vitality at one fell swoop to an adequately humble level it behoves him to take his descent by easy stages and to guard against the follies which we have described; if he does this he will reap to the full the undoubted advantages which a judiciously spent holiday should and can afford.

Annotations.

"Ne quid nimis."

THE MEDICAL MAN, THE CORONER, AND THE PATHOLOGIST.

AT a recent inquest at Lambeth held by Mr. Troutbeck evidence was given by Dr. L. Freyberger who had held a post-mortem examination on the deceased but no other medical witness was called. The foreman of the jury drew attention to this, asking why there was no witness from the hospital to which the deceased had been taken who could have given the result of his observations

made immediately after death. Mr. Troutbeck's answer to this was that Dr. Freyberger was a pathologist and toxicologist appointed by the London County Council and that he "did not care to rely upon the evidence of a young hospital house surgeon, who perhaps was only just qualified." In answer to a question as to whether the expense to the rates was increased by the course which he adopted in summoning Dr. Freyberger, the coroner answered that no extra expense was involved and that even if it was it had nothing to do with the inquiry. The jury upon this occasion appear to have evinced a timely curiosity as to Mr. Troutbeck's methods and were no doubt puzzled to know why post-mortem examination alone should be relied upon in adducing medical evidence at an inquest to the exclusion of observations made and opinions formed before or immediately after death. There is no need to dwell upon the value of such evidence or to point out that where it is obtainable it may corroborate or may correct the evidence derived from the necropsy or may supplement it in matters of detail of an important character. There are points material to the coroner's inquiry which cannot be determined, and are not likely even to be suggested, by the medical man who only makes a post-mortem examination many hours after death has taken place. For example, where it is alleged that a medical man was summoned either before or immediately after death took place only that medical man can corroborate such a statement by independent testimony. Should he not give evidence an important question as to whether there was neglect, possibly of a criminal character, may never be raised. Mr. Troutbeck's explanation as to fees is also open to observation. He does not increase the ratepayers' liability by employing Dr. Freyberger in a case where only post-mortem evidence can be given, because Dr. Freyberger's fee is the same as that which under the Coroners Act should be paid on such an occasion to a medical man practising in the district. Should, however, the evidence of the medical man called in at the time of death be obtained and the post-mortem examination be made not by him but by Dr. Freyberger or by some other medical man, an increase of fees payable would result. Mr. Troutbeck gave the jury at the Lambeth inquest the explanation that the newspaper discussion to which their foreman referred was "being carried on in some cases by persons interested in the question of fees," and to the extent to which this observation is true there is nothing whatever to be ashamed of. Medical men who under the Coroners Act have the right to be summoned as witnesses and to be paid the fees assigned for such services are perfectly entitled to complain if they are deprived of them. The question of the legality of Mr. Troutbeck's action, however, will not be satisfactorily disposed of until it is properly raised by calling the attention of the County Council's auditor to the matter. If that gentleman then passes the account for the fees his decision to do so can be called in question in the High Court of Justice. This remedy was discussed in a leading article in THE LANCET of Jan. 10th, 1903, p. 111, when an Irish case (R. *v.* Finlay, Irish Reports 11, Common Law 498) was cited as an authority for the view taken.

THE FORM IN WHICH PHOSPHORUS EXISTS IN FOODS.

THE importance of phosphorus as a "building" material in the body is well known; it is a constituent of the cells, of the nervous system, and of the bones. Considerable study has been directed during recent years as to the form in which phosphorus exists in various foods and it seems fairly certain that the element is almost exclusively associated with an organic group and is not present, as has been generally assumed, as mineral phosphate. At any rate, it is now established that the inorganic compounds of phosphorus are not assimilated to any appreciable extent and, therefore, they can be of little value to the body. Moreover, phosphates are rapidly excreted without apparently playing any important rôle in the nutritive processes. We know that in cell substance, as in nuclein and lecithin, the phosphorus is combined with the glyceryl group and this fact has led to the preparation of glycerophosphates, which in many cases have been administered with undoubtedly good results in cases of impaired nutrition. When food substances containing phosphorus are incinerated the phosphorus is found in the ash chiefly as phosphate of potassium. Recent research shows that the phosphorus exists in foods not in the form of an inorganic compound but of an organic compound. To take one example, it is stated that all the soluble phosphorus of wheat bran is of an organic nature—in the form, in fact, of a phosphoric acid of a hydrocarbon group. Shortly, the compound may be described as a magnesium calcium, potassium salt of a phospho-organic acid. The acid and its salts have already been identified in the pulses and in the potato. It is obvious that a great number of phospho-organic compounds may exist, since phosphates of many hydrocarbon groups are well known. The subject is clearly of importance in relation to the essentiality of the element in the dietary of the growing individual.

MULTIPLE NEURITIS WITHOUT DISTURBANCE OF SENSIBILITY.

IN cases of multiple neuritis motor symptoms almost invariably predominate and though sensory symptoms may be present in the early stages of the disease they disappear before the later stages of the illness have developed, so that the symptoms are subsequently purely or exclusively motor in character. In the *Journal of Nervous and Mental Disease* for August Dr. J. Abrahamson gives details of a case with some features of special interest both as regards symptoms and diagnosis. The patient was a woman, aged 34 years, whose illness began in February, 1903, with weakness in the legs. In March she had a slight attack of what was probably influenza with a slight pleurisy. She recovered from the illness but four weeks later she began to develop œdema of the face and extremities and had a single attack of vomiting and diarrhœa. Some local tenderness was felt in the legs along the outer sides. The weakness in the legs progressed and a few weeks later she complained of numbness of the hands and weakness of the thumbs. A noticeable degree of wasting ensued in the legs, with paræsthesia of the thighs, legs, and feet. She was slightly febrile during this time and suffered from frequent urination and diarrhœa but at the end of a fortnight the febrile condition subsided. Her illness was diagnosed at the time as influenza. On attempting to get up from her bed a condition of wrist-drop and of foot-drop was noticed, the latter being the more marked. The physicians in attendance called the condition neuritis with partial muscular paralysis. According to their statement no sensory disturbances were present. She felt at all times the slightest touch and she was able to distinguish pin-pricks and hot and cold applications. The deep reflexes were absent on both sides and there was some ataxia, chiefly on the right side. The heart was apparently normal, the muscles of the trunk were intact, and the abdominal reflexes were preserved. There was some wasting of the peronei muscles with reaction of degeneration but no fibrillary twitchings were observed. There were no changes in tactile or thermal sensibility of the limbs. The patient was treated with electricity and strychnine and improved rapidly and was soon able to

walk alone. In view of the attack of œdema, diarrhœa, and vomiting, the febrile attack with slight pleurisy, and the distinctively peripheral character of the paralysis which followed, a diagnosis of multiple neuritis (following influenza) was made. Careful inquiry negatived any metallic poisoning such as the foot-drop and the wrist-drop might have suggested. In the discussion which followed the communication of the above paper at the New York Neurological Society Dr. Bernard Sachs stated that he had found objective sensory symptoms frequently absent in the most pronounced and indubitable cases of multiple neuritis. Dr. Leszynsky agreed that in the later stages at any rate of the disease there were no sensory symptoms whatever. What they had to deal with in this case was a purely motor neuritis, showing that the affection was limited to the motor fibres of the spinal cord in their peripheral distribution.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION.

THE autumn meeting of the South-Eastern Division will be held by the courtesy of Dr. James Chambers at the Priory, Roehampton, S.W. (about half a mile from Barnes Station), on Thursday, Oct. 6th. The general meeting will be held at 2.45 P.M., after luncheon with Dr. Chambers. Among the items of the agenda are (3) to fix the place of the spring meeting which is to be held on April 27th, 1905, and (5) to consider the report of the statistics committee as to the revision of the statistical tables. Communications will be made by Dr. F. W. Mott on the Morbid Changes in the Brain in Sleeping Sickness, by Dr. F. Graham Crookshank on the Management of Early and Ill-defined Cases of Mental Disorder, and by Dr. R. Hunter Steen on Mental Disease with Exophthalmic Goitre. If a sufficient number agree the members will dine together at the Café Monico, Piccadilly-circus, W., at 7 P.M. Further particulars may be obtained from the honorary secretary, Dr. Arthur Norman Boycott, Herts County Asylum, Hill-end, St. Albans.

SALICYLIC ACID IN GINGER WINE.

AN interesting and important case was tried recently before the Recorder of Belfast in reference to the preservation of ginger wine with salicylic acid. The action was remarkable in many ways but its principal interest lay in the extraordinary divergence of the medical and the chemical evidence. On the one hand, it was declared that salicylic acid was a dangerous drug, especially when given to persons suffering from inflammation of the heart, liver, or kidneys, and that in such circumstances if its use was continued it might cause death. One of the medical witnesses testified that in his own case it had been administered to him when suffering from rheumatic fever with the result that he had nearly died and he had never prescribed it since. On the other hand, a chemist said that he had taken as an experiment 15 grains of salicylic acid per diem for 18 days without the slightest evil effects; and a medical man said that it was not unusual to give 120 grains in a day and that he had known it to be taken in daily doses of from 60 to 90 grains without the slightest harm. He had never known any injurious effects which could be attributed to salicylic acid and 300, and even 400, grains had been administered without any ill effects. All the statements in books about its effects upon the heart and kidneys were owing to the use at the time they were written of the impure drug and these effects were due not to the acid but to the impurities at first associated with it, while now, owing, he said, to its being pure, there was no cardiac depression even after enormous doses; it was foolish to talk of salicylic acid being depressant (if it was pure) in any doses up to 120 grains a day. In reply to the statement that ten grains of salicylic acid had been known to bring a man's pulse down ten beats a minute and that others had found it to affect the kidneys, a medical witness said, "these expressions of opinion could be manufactured about every known substance that could be taken into the system." These discrepancies may be explained by differences in idiosyncrasy. Again, in reference to the chemistry of ginger wine, it was alleged that it contained 12·2 per cent. of alcohol, which was a sufficient preservative to prevent putrefaction for years if the wine was kept in clean bottles, properly corked, without the aid of such a dangerous drug as salicylic acid, while, on the other hand, a chemist declared that it was absolutely necessary to have a preservative for ginger wine in order to make it keep for a reasonable time and that salicylic acid was a good preservative and in the proportion of 7·2 grains to the pint its addition would be quite harmless. Further, he stated that alcohol was not developed in ginger wine by fermentation but that proof spirit was added; this, however, would not be sufficient as a preservative. Salicylic acid prevented, he said, decomposition of the wine but would not necessarily produce the same effect in the stomach and thus retard digestion. He did not agree with Dr. E. H. Starling's views that salicylic acid tended to retard digestion by preventing the action of the gastric juices.

THE NATIONAL ASSOCIATION FOR THE FEEBLE-MINDED.

IN a recent article we directed attention to the appointment of a Royal Commission for the purpose of reporting upon the treatment of mentally defective persons. We must not forget to mention in this connexion the useful work which has been done by the National Association for the Feeble-Minded and the National Union of Special Schools. These organisations, which are interdependent, represent an endeavour to deal with the problems of imbecility in a manner at once practical and scientific. The former has already established several homes in different parts of England for the maintenance and training of the weak-minded and is affiliated with other local institutions of the same character. Its objects are to provide wherever desirable the means of earning a livelihood, to house the incapable in permanent homes, and to ascertain, if possible, how far imbecility is due to preventable causes and thus to limit its extension. The association is assisted in these efforts by a medical committee. The National Union of Special Schools is mainly concerned with the education of children deficient in mental and physical stamina. The number of cases dealt with by the association during the year ending March 31st, 1904, was 509, as compared with 455 in the year preceding. Several members of the Royal Commission are also members of the association and the record of its operations can hardly fail to prove serviceable during the forthcoming inquiry.

THE ACTION OF TURPENTINE AS AN ANTIDOTE TO PHOSPHORUS.

TURPENTINE has for long been used as an apparently true antidote in cases of poisoning by phosphorus but its use for this purpose has been purely empirical and no satisfactory explanation has been forthcoming of its actual nullifying effect upon phosphorus. Phosphorus readily dissolves in the oil but hitherto no chemical interaction between phosphorus and the turpentine has been observed. It appears now, however, that a solution of phosphorus in turpentine when exposed to the air deposits a waxy substance which on analysis would seem to be a definite compound of phosphorus and turpentine. Subsequently analysis led to the adoption of a definite formula which corresponds with a true terpene phosphite in which one atom of hydrogen in the phosphorus acid has been replaced by the terpene group $C_{10}H_{16}$. These results suggest that in employing turpentine as an

antidote to phosphorus the effect would be more rapid if an oxidising agent, such as peroxide of hydrogen or camphor peroxide, could be used in conjunction with it. It would be interesting further to investigate the action of sanitas oil on phosphorus, since this oil is a ready oxidiser and is prepared from turpentine. In view of the above results sanitas oil might easily prove to be a valuable antidote to phosphorus. Certain it is that the timely administration of turpentine in cases of phosphorus poisoning has resulted in recovery It has been said that not all kinds of turpentine are effective, which may be due to the fact that some kinds contain more oxygen than others.

CHRONIC INTERSTITIAL NEPHRITIS IN THE YOUNG.

CHRONIC interstitial nephritis in the young has been recently discussed in our columns.[1] The subject was treated from the standpoint of the physician and the question of the ocular changes in general was not considered. In the Royal London Ophthalmic Hospital Reports, Vol. XVI., Part 1, Mr. E. Nettleship has published a valuable paper on Renal Retinitis in Young Subjects and the Relative Frequency of Juvenile Interstitial Nephritis in the Two Sexes which may therefore be regarded as supplemental to the articles just mentioned. From various sources he has collected 80 cases of interstitial nephritis in patients not above the age of 21 years, including nine under his own care. In addition there were three cases in which the nephritis was associated with calculus in the kidney or bladder. 62 cases were known to be fatal and in 60 of these a necropsy was made. For purposes of comparison Mr. Nettleship examined the notes of 149 cases diagnosed as parenchymatous nephritis at the Hospital for Sick Children, Great Ormond-street. Out of the 80 cases of interstitial nephritis retinitis or multiple retinal hæmorrhage was observed in 31 and it also occurred in two out of the three cases associated with calculus. In ten the eyes were examined and found to be normal. In the remaining cases no ophthalmological examination appears to have been made. Out of the 149 cases of parenchymatous nephritis definite retinitis was found in seven and doubtful appearances, such as slight haziness of the discs, in several others. In about 43 cases the eyes were examined and found to be normal and in the remaining cases no examination appears to have been made. Out of the 40 cases of retinitis in both groups the number in which the eye changes were severe was greater than in any similar consecutive number of cases in adults. Both retinæ were detached in three cases, abundant hæmorrhage was a feature of two or three, and exudation and swelling were excessive in three or four others. But it must not be considered proved that the ocular changes in children are more severe than in adults, for, perhaps, mild degrees of retinitis causing little interference with sight would have been discovered in more of the children had a routine ophthalmoscopic examination been made. The same remark applies to the apparent infrequency of retinal changes in parenchymatous as compared with interstitial nephritis. The ophthalmoscope was used much less frequently in the former cases. The earliest age at which renal retinitis has been recorded is five years (in a girl). In the 40 cases (interstitial and parenchymatous) the ages of two patients was seven years; of three, eight years; of two, nine years; of three, ten years; of two, 11 years; and of five, 12 years. Of the 40 patients suffering from retinitis 24 died at a known period after the retinitis was discovered. The interval was three and a half years in one case, between 12 and 15 months in four cases, between four and seven months in three cases, and less than four months in 16 cases. Hence the prognosis of chronic renal disease with retinal changes in the young is not less grave, perhaps more grave, than in adults. Chronic renal disease below the age of 21 years was found to be commoner in females than males, the reverse of the rule in adults. The females amounted to 64 and the males to 36 per cent. of the total. In interstitial nephritis the preponderence of females was still greater (70 per cent.). In parenchymatous nephritis, on the contrary, the males were slightly in excess of the females. But in the parenchymatous nephritis of adults the excess is much greater (according to Dickinson more than twice as many cases occur in males than females). As to the causation of interstitial nephritis in the young Mr. Nettleship finds that out of 45 cases in which the previous history was complete scarlet fever occurred before the onset of the renal symptoms in 16, the interval never being less than two years and often much more. In at least six cases scarlet fever was definitely denied. Measles, either alone or in conjunction with chicken-pox, seemed to be the most probable cause in eight cases. In two cases there was a history of chronic infantile eczema; in two of severe infantile diarrhœa; and in one or two of rickets with subsequent arrest of growth and failure of intelligence. In three there was a history of stone in the kidney and bladder. In three cases alcohol presumably was the cause, two of the patients being lads who drank heavily and one a barmaid who owned to taking "neat" brandy before breakfast. Hereditary syphilis was proved in six cases and was highly probable in several others. It was also certainly the cause in four of the parenchymatous cases. Thus the specific fevers accounted for about three-fourths of the interstitial cases. They were evidently the cause of one-third of the parenchymatous cases but this proportion was probably only a fraction of the true one.

[1] THE LANCET, July 23rd, p. 217, and August 20th, p. 556.

"SILENT SPIRIT" IN BRANDY.

A MAN was summoned at the Manchester Police-court on Sept. 20th for selling brandy containing not less than 25 per cent. volume of spirit, "not being brandy derived from wine." Mr. Charles Estcourt, the city analyst, contended that the whole of the spirit in the brandy should be derived from wine. The defence set up amounted, in fact, to saying that a great deal of the brandy which came into the country contained "silent spirit," and that such brandy was sold honestly, which, of course, means that this substitution or addition of something which is not brandy, but is called brandy, is very prevalent. Thus vice is justified because there is so much of it. As this was the first case of the kind in Manchester and the offence was not denied the magistrates "as a warning to others"—no doubt calculated to strike terror in the offenders—imposed a fine of 10*s*. and costs.

DEATH CERTIFICATES SIGNED BY AN UNQUALIFIED PERSON.

A VERY serious case of wrongful death certification was recently dealt with by the magistrates at Dale-street, Liverpool. A man named John Dale Tucker pleaded guilty to an offence under the second section of the Births and Deaths Registration Act, 1874, but the facts disclosed by the statement of the clerk to the West Derby union, who prosecuted, went further than the signing of certificates of death by an unqualified person. The defendant had in the two instances charged against him signed certificates in the name of a qualified medical practitioner formerly practising in another county but then abroad, and many other certificates similarly signed had been received and presumably accepted by the registrars of North and South Everton. The defendant, according to the statement of his solicitor, claimed to have obtained the degree of M.D.

of Pennsylvania, U.S.A., and since 1876 appears to have carried on unqualified practice in England, sometimes acting as locum-tenent or assistant to medical men, with the exception of a period from 1879 to 1891 when he was suffering from blindness. He was also alleged to have entered into negotiations with Mr. Henry Gould, whose name he used for the certificates, with a view to partnership. In the circumstances the fines of £10 with £3 costs inflicted in the two cases in which he pleaded guilty constituted a lenient manner of dealing with his misdeeds. The case shows how inefficient and untrustworthy the existing system of death certification and registration must be for any of the purposes which death certification and registration are intended to fulfil.

THE USE OF BORAX AND BORIC ACID AS FOOD PRESERVATIVES.

BORAX and boric acid are now so largely used as so-called "food preservatives" that the question of the occurrence of illness in the form of catarrh of the stomach, nausea, and anorexia due to the preservative has been repeatedly forced upon the notice of physicians in the last few years. Dr. Charles Harrington, assistant professor of hygiene at the Harvard University, has published in the *American Journal of the Medical Sciences* for September an account of his experiments and observations on the extent to which such "preservation" of food prevails and the effects produced in the consumers of such foods, and in our issue of Sept. 17th, p. 844, we referred to certain experiments made by him as to the production of nephritis in cats by feeding with borax. We refer to the subject again on account of Dr. Harrington having found that both borax and its derivative boric acid are very widely used in the United States, these substances being almost invariably present in small quantities in butter, milk, oleomargarine, and some forms of cheese. Clams and oysters, he says, are treated similarly to prevent putrefaction, while powdered boric acid is "dusted" over meat and fish to prevent them from undergoing "sliming" of the surface. Solutions of boric acid are also used for injection into ham, pork, corned beef, and others meat provisions, and he has never failed to meet with considerable traces of boric acid in all canned meats and meat foods. An account of the use of borax and boric acid as food preservatives and of the physiological limits of their use was given in an annotation in THE LANCET of April 19th, 1902, p. 1129. Dr. Harrington states that the physiological limit is often exceeded by the manufacturers of canned and other meat goods, so that many of the foods enumerated contain an excessive amount of boric acid, which is thus deleterious to health. Boric acid not only arrests the decomposition of the meat and other food into which it is injected but increases the water-retaining capacity and consequently the weight of the same. His own analyses confirmed the results obtained by Polenske (1900), who found borax or boric acid to the extent of more than 1 per cent. in every one of 51 specimens of American pressed beef. It has been pleaded by those who sell provisions that the meat is only dusted over with the powder which can be readily wiped or washed off and that it is not absorbed into the meat. Dr. Harrington shows, on the contrary, by experiment and chemical analysis that boric acid is absorbed by the meat and that "once established in the tissues it cannot be soaked out or even boiled out." This fact has also been confirmed by Heinze. The addition of from 0·1 to 0·2 per cent. of boric acid to milk, though seemingly insignificant, is equal to from 15 to 30 grains per quart. Such a proportion of the substance taken in milk is sufficient to produce diarrhœa and nausea, says Dr. Harrington. Corned beef has been found to contain as much as 18 grammes of boric acid per pound, hams have on analysis been found to contain the same amount, while sausages contained four grammes per pound. Oysters generally have been found to contain about one gramme of boric acid to the pint. These are certainly to be regarded, says Dr. Harrington, as excessive quantities. "An oyster stew made with a pint of such milk and a quarter of a pint of such oysters, followed by a quarter of a pound of such beef or ham, would not constitute an excessive meal for an average man who would ingest therewith upwards of seven grammes of boric acid, an amount which in the course of the day's food might easily be doubled." Dr. Harrington concludes that the attention of the legislature should be drawn, and minimum limits fixed, to the use of these food preservatives.

THE THERAPEUTIC VALUE OF SUPRARENAL GLAND PRODUCTS.

IN a paper with the above title read before the Therapeutical Society Dr. J. Gray Duncanson gives his experience of the uses of adrenalin and suprarenal extracts in general practice. After a brief *résumé* of the physiological effects of suprarenal extract as described by Schäfer and Oliver he enumerates the principal preparations on the market and gives his results of determinations of their reducing power to Fehling's solution, which he regards, following Aldrich, as a measure of the quantity of active principle contained in them. He has used the various preparations locally in a variety of conditions, for most of which the value of the drug is well established, among others in nasal and aural diseases and in epistaxis and other forms of hæmorrhage. He has also found it of great use locally in catheterisation, in the pain and strangury of acute gonorrhœa, and in the hæmaturia due to enlarged prostate. He has given it internally in many conditions and records a case of malaria with hæmoglobinuria in which benefit was observed as a result, although the patient eventually died. In hæmoptysis he found that its use was not beneficial. This is hardly to be wondered at, since many local styptics which act by contracting the vessels when given internally naturally tend to increase the hæmorrhage by raising the blood pressure. That suprarenal extract and the various preparations derived from it are of great use in a variety of conditions is very generally admitted but Dr. Duncanson is perhaps a little optimistic in his views. He does not refer to the temporary nature of its action or to the dilatation of the vessels which may follow its use. He states that it never fails in epistaxis, for which condition he packs the nasal cavities with double cyanide gauze damped with adrenalin solution.

THE CONDENSATION OF GASES BY CHARCOAL.

IN these days when attention seems to be riveted so strongly on remarkable atoms of the radium order the atoms possessing apparently less pretentious properties are in danger of being neglected. Years and years ago the announcement that the now relatively uninteresting element carbon was a powerful absorbent of gases was received with the greatest interest and the discovery proved of some practical importance. Owing to this remarkable property charcoal was used as a deodorant, as a purifier of water, and as a purifier also of air in the form of a respirator. There is more in this remarkable property than first meets the eye, for this power of occluding gases shown by charcoal and coke has been further studied with interesting results which promise to help in the elucidation of the nature of recently discovered elements. Wood carbon absorbs large quantities of gases at extremely low temperatures and can be used, therefore, to produce very

high vacua. Indeed, by plunging charcoal into liquid hydrogen the vacuum obtained owing to condensation of the hydrogen within the pores of the charcoal became so high that no electric discharge will pass. In a similar experiment in which helium was substituted for hydrogen the vacuum was so high that a coil giving a four centimetre spark in air had to be used before a phosphorescent discharge could be obtained, and then the spectrum shown was due to glass. Carbon clearly, therefore, has a marked selective action for helium and the experiment suggests that this element may prove to be a valuable "finder" of helium in gases, and possibly of other gases not yet known to us. It is not a little curious that this occluding property of carbon which has been known for a very long time has not been tried before in the search after rare gases. Even coke occludes gases in surprisingly large quantities and further shows a selective action in this respect. Thus coke will completely absorb the oxygen from the air, leaving pure nitrogen, a residue of nitrogen, however, being found in the porous substance but no oxygen. It is probable that in this case, therefore, the oxygen has combined with the hydrogen of the coke to form water as there was no evidence of any carbon being oxidised. Further experiments with the occluding property of charcoal in connexion with the quest after new gaseous elements and the determination of the properties of those already discovered will be looked forward to with considerable interest.

SEIZURE AND CONDEMNATION OF TUBERCULOUS MEAT.

IN the report of the Select Committee of the House of Commons on the Tuberculosis (Animals) Compensation Bill, 1904, reference was made (*a*) to the variety of practice alleged to exist with regard to the amount of tuberculous deposit the existence of which in a carcass is held to justify its total condemnation; and (*b*) to complaints made by butchers as to the injury caused to them by their prosecution in open court for having tuberculous meat upon their premises. A circular has been issued by the Local Government Board drawing attention to these two points and making suggestions as to the course which should be pursued by the meat inspectors. The members of the Royal Commission (1898) were of opinion that the entire carcass and all the organs of an animal should be seized under the following conditions: (*a*) when there is miliary tuberculosis of both lungs; (*b*) when tuberculous lesions are present in the pleura and peritoneum; (*c*) when tuberculous lesions are present in the muscular system or in the lymphatic glands imbedded in or between the muscles; and (*d*) when tuberculous lesions exist in any part of an emaciated carcass. The Commission further suggested that the carcass if otherwise healthy should not be condemned but every part of it containing tuberculous lesions should be seized (*a*) when the lesions are confined to the lungs and the thoracic lymphatic glands; (*b*) when the lesions are confined to the liver; (*c*) when the lesions are confined to the pharyngeal lymphatic glands; and (*d*) when the lesions are confined to any combination of the foregoing but are collectively small in extent. The Local Government Board, after a full consideration of these recommendations, came to the conclusion that measures more stringent than those advocated by the Royal Commission are not called for. This decision is a perfectly right one, especially as the subject of bovine tuberculosis is at present being investigated by another Commission. The Board has, however, acted wisely in insisting upon the expediency and desirability of compelling those officers who are employed as meat inspectors to act in direct accordance with the principles thus laid down if any slackness in this respect exists. With regard to the prosecution of butchers the Select Committee expresses the view that if a butcher who is in possession of tuberculous meat has notified the fact to the proper authority as soon as he could be reasonably expected to be aware of it the case should not be taken into court. This decision is also a wise and just one, for serious consequences may result to the business of a butcher from prosecution in open court for being in possession of tuberculous meat. If, however, such possession is voluntarily and promptly disclosed by the owner the carcass or its parts can be destroyed and so the necessary protection to the public can be satisfactorily assured without any further legal proceedings.

THE first meeting of the forty-ninth session of the West Kent Medico-Chirurgical Society will be held at the Royal Kent Dispensary, Greenwich-road, S.E., at 8.45 P.M., on Friday, Oct. 7th. The President, Dr. Robert E. Scholefield, will occupy the chair. After the formal business a clinical evening will be held, when cases and apparatus will be shown by Dr. F. S. Toogood, Dr. M. Dockrell, Dr. L. L. B. Williams, and Dr. G. Herschell.

THE opening meeting of the twenty-third session of the West London Medico-Chirurgical Society will be held at the West London Hospital on Friday, Oct. 7th, at 8.30 P.M. The presidential address will be delivered by Mr. C. M. Tuke, the subject being "Progress in Psychology."

THE annual dinner of the Association of Public Vaccinators of England and Wales will be held at the Hotel Cecil, Strand, London, W.C., on Friday, Oct. 28th, at 7 P.M. All communications should be addressed to Mr. Charles Greenwood, 1, Mitre-court-buildings, Temple, E.C.

IT is announced that the boatswain of the London steamer *Bishopsgate*, now at Jarrow-on-Tyne, is suffering from plague and has been removed to the floating hospital for infectious diseases. The *Bishopsgate* has come from Rosario, South America, calling at Hamburg.

WE regret to announce that Professor Finsen of Copenhagen died on Sept. 25th in his forty-third year. It will be remembered that the Nobel prize was awarded to him about a year ago. We hope to publish an obituary notice at an early date.

A MEETING of the East London Medical Society will be held on Tuesday, Oct. 4th, at 3.30 P.M., in King's Assembly Rooms, Cottage-grove, Mile End-road, near Burdett-road, E.

AT St. Thomas's Hospital Medical School the entrance scholarship in natural science, of the value of £150, has been awarded to Mr. Ernest William Witney, and the University scholarship, of the value of £50, to Mr. Charles Ernest Whitehead, B.A., of Caius College, Cambridge.

HEALTH OF DEVONPORT.—The medical officer of health of Devonport (Mr. J. May) in his annual report for 1903, which has just been issued, states that during the year the births numbered 2055, giving a birth-rate of 23·7 per 1000. The number of deaths was 1055, equal to a death-rate of 14·2 per 1000. The average birth-rate and death-rate for the preceding 10 years were 26·8 and 16 per 1000 respectively. Mr. May adds that hitherto all the sewage has been allowed to flow untreated into the river Hamoaze. This is now prohibited by the Admiralty and the drainage of the suburbs of Devonport will have to be treated specially so that none but a clear effluent shall be discharged into the Hamoaze.

THE EVOLUTION OF MAN'S DIET.

By HARRY CAMPBELL, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL AND TO THE HOSPITAL FOR NERVOUS DISEASES, WELBECK-STREET.

IV.[1]

HAVING now completed our general survey of the various diet epochs we may proceed to treat of each in detail.

THE ANTHROPOID PERIOD.

The anthropoid period began with our generalised anthropoid precursor, as represented by some such being as the extinct dryopithecus with a cranial capacity of 3 or under, and it continued till the appearance of that anthropoid precursor which stood at the same level as the present-day great apes now stand, with a cranial capacity of 5, or somewhat less. The food of our anthropoid precursors was probably much the same as that of the existing anthropoids, and in order to ascertain what it was we must therefore inquire into the diet of the apes. We may also gain some help in this direction by studying the diet of the remaining primates, or "monkeys," as some term them, in contradistinction to the "great apes." But before entering on this inquiry let us consider the factors which determine the food of animal species.

Factors determining the food of animal species.—We find these to be three in number: 1. The kind of food available—i.e., the nature of the flora and fauna where the species is located. 2. The desire or prompting for certain foods; while this varies with every species it will be found that all animals in their choice of foods are influenced, consciously or unconsciously, by three considerations: the degree of concentration of the food, its digestibility, and its taste, the tendency of every animal being to seek out food in as concentrated, digestible, and palatable a form as possible; a concentrated and easily digestible food has the great advantage that it can be procured and assimilated with the minimum expenditure of energy. Of vegetable foods seeds and roots are the most concentrated, but of all natural foods animal tissue is at once the most easily digested and the most concentrated, and given the necessary facilities even herbivorous species tend to become carnivorous, while the reverse, so far as I know, never occurs. In winter the reindeer eats flesh and in seasons of dearth farmers have been known to feed their cattle and even their horses on fish, but the carnivora cannot digest vegetable food unless it is artificially prepared. All the carnivorous mammals were originally vegetable feeders. In regard to the palatableness of any given food this, of course, varies with different species; what may be highly palatable to one may excite disgust in another; there may be species which revel in bitter and sour foods such as aloes and sloes but probably the tendency of all the mammals, certainly of the higher ones, is to avoid bitter and sour-tasting foods in favour of those that are sweet or possessed of delicate flavours. Within limits sourness is tolerated even by man who sometimes manifests an actual craving for sour things, such as lemons. One of the chimpanzees at the London Zoological Gardens is very partial to this fruit and there can be little doubt that in their natural state the anthropoids subsist largely on bitter and acrid substances from which the human palate would recoil in disgust. Nevertheless, the tendency is probably in the direction indicated. 3. The degree to which the skill needful to procure the desired food is possessed by the species. Obviously the greater the intelligence and the better the physical equipment needful for securing a food—e.g., that needed for climbing a tree or grasping an object—the more successful is the animal likely to be in obtaining it. Among the rodents the stupid rabbit, unable to climb and with little prehensile power, has to be content with a bulky diet of comparatively innutritious herbs, while the more intelligent squirrel, a nimble climber and possessed of considerable prehensile power, is able to procure highly nutritious seeds and not a little animal food. The intelligence and nimbleness of rats, again, enable them to procure highly concentrated and palatable foods; they haunt the abodes of man and pillage the food, animal as well as vegetable, which he has stored for his own use.

All changes which the diet of our ancestors has undergone since pre-anthropoid times are to be explained by reference to these three factors. We shall see that the food of the great apes and the monkeys is for the most part concentrated, consisting of the more concentrated vegetable foods and of that most concentrated of all food—animal tissue. The facts that many of the monkeys are provided with a large cæcum and that all the great apes possess a vermiform appendix, indicating their descent from ancestors possessing a very capacious cæcum, show that both the apes and the monkeys are derived from beings whose diet was more bulky than is their own. Evidently with the advance in intelligence and dexterity the evolving primate gradually abandoned a herbivorous for the more concentrated frugivorous diet, becoming also an animal feeder. That monkeys and apes, in spite of their great intelligence, are not more carnivorous than they are is probably to be explained by the facts that they are essentially arboreal in their habits and are not endowed with the necessary physical equipments for securing an abundance of animal food. I have already insisted that it was not until our ancestors had learnt to fashion weapons and traps that they were enabled to secure a plentiful supply of animal food.

Coming now to the food of the primates it is to be observed that zoologists include under this order the lemur-like animals (Lemuroidea) and the man-like animals (Anthropoidea).[2] The true lemurs are by some not included among the primates, being termed by the Germans half-monkeys and by the French false monkeys; they show affinities to the insectivora. The anthropoidea include among others man, the great apes (gorilla, chimpanzee, orang, gibbon), the baboons, and—lowest branch of all—the marmosets, further below the great apes than the latter are below man. The reaction of the blood of the various members of this group affords, as E. H. F. Nuttall has so ably shown, a valuable means of determining their relative affinities to man.[3] This method of testing shows that the great apes are the most closely allied to man; that the group which includes the baboons comes next, while the lemuroids give no indication of blood relationship.

DIET OF THE MONKEYS (PRIMATES BELOW THE GREAT APES).

The *lemurs* proper eat fruits, birds' eggs, birds, mice, and insects, and one species is said to eat honey.

The *lemur-like animals* eat fruit, leaves, birds' eggs, small birds, reptiles, and insects. One of the best known of these creatures is the aye-aye, a native of Madagascar. Its food consists largely of the larvæ of a beetle; it drinks after the manner of many monkeys—by dipping the fingers into the water and drawing them through the mouth; it is said by some to eat honey.

Marmosets, the lowest anthropoids and the most nearly allied to the lemuroids, subsist on insects and fruits, not disdaining flesh, including fish.

Baboons (11 species) are omnivorous. Their food consists principally of insects, which they search for under stones, turning the latter over with their hands, larvæ of beetles, caterpillars, lizards, eggs, nestlings, mice, fruits, and roots; in South Africa they will rip open lambs to get the milk out of the stomach and will pelt an enemy with stones. The Doquera baboon goes about in large herds; these animals hunt their prey, chiefly small ruminants, like a pack of hounds, following the quarry till it is exhausted. The chacma, the largest of all the baboons, subsists on scorpions, centipedes, and all manner of insects, birds' eggs, gum and honey, and the bulbous roots of certain liliaceous plants, in the procuring of which it often displays considerable ingenuity. Le Vaillant's pet chacma would lay hold of a tuft of leaves with its teeth and pressing its four paws firmly against the earth and drawing its head backwards the root generally followed; when this did not succeed it seized the tuft as before as close to the earth as it could, then throwing its heels over its head the root yielded to the jerk it gave it. The Anubis baboon digs up the roots of grasses. The Arabian baboon lives chiefly on insects and such creatures as it finds under stones or among rocky cliffs and ravines. The Gelada baboons are known to roll down

[1] Nos. I., II., and III. were published in THE LANCET of Sept. 10th, (p. 781), 17th (p. 848), and 24th (p. 908), 1904, respectively.

[2] It should be noted that the term "anthropoid" is by many confined to "the great apes," and it is in this sense that I have used it in these papers.

[3] Blood-Immunity and Blood Relationships, &c.

stones upon their enemies from the rocky cliffs where they frequently congregate, also to hurl stones.

The *macaques* (of which there are 17 species) have teeth adapted to crush and to open hard-shelled fruit. Most, if not all, species eat insects, seeds, fruits, and they have been known to devour lizards and frogs. One species subsists chiefly on crustacea. All have the habit of cramming food into their cheek pouches for mastication at leisure. The Barbary macaque eats grass very readily and is very destructive to cultivated fields. The Formosan rock macaque lives on berries, tender shoots of plants, grasshoppers, crustacea, and mollusca. The crab-eating macaque feeds on seeds, insects, and crustacea; it may be seen wading about the swamps searching for crabs and shrimps and it can swim and dive well. The claws and body of a crab were found in the cheek pouches of a female that had been shot.

The *mangabeys* (six species) subsist chiefly on fruits.

The food of the *guenons* (40 species) consists of fruits, birds' eggs, and honey; they are very destructive to the grain fields of the natives and are said to repel intruders with missiles. One species is very partial to the gum which exudes from various kinds of acacia. Syke's guenon readily ate meat and would choose to pick a bone even when plentifully supplied with vegetables and dried fruit. The Patas guenon in its native forests lives in large troops which unite together against a common enemy, and they throw stones, branches of trees, and other objects at their aggressors.

The *guerezas* (nine species) and *langurs* (23 species) are provided with a large sacculated stomach and subsist for the most part on vegetable food, chiefly leaves, young shoots, and fruits; some are said to devour insects. Of one species of langur we read that two communities will often enter into deadly combat for possession of a fruit grove.

Summarising our knowledge of the diet of the monkeys we may say that while it is in the main vegetable it is also partly animal. The lemurs which, as shown by the blood tests, are farthest removed from man, are the most carnivorous, while the guerezas and langurs are the most vegetarian. The animal food includes birds, birds' eggs, mice, lizards, frogs, shell-fish, grubs, scorpions, centipedes, and insects. Honey is devoured by some of the lemurs, baboons, and guenons, and gum by baboons and probably many other monkeys. The vegetable foods include fruits, seeds, roots, tender shoots, and leaves. All the monkeys appear to rob plantations when they get the chance. The fact that baboons are known to dig up roots and search under stones for insects and grubs is of interest as showing what a high degree of intelligence they bring to bear on the food quest, and suggests that man's precursors early began to use their hands in these ways. It is also worthy of note that several varieties of monkeys employ stones and other missiles against their enemies; baboons hurl and roll down stones; guenons repel intruders with stones and branches of trees; there is even evidence that pitched battles may take place among certain species of langurs for the possession of feeding grounds.

FOOD OF THE GREAT APES.

The food of the great apes being almost certainly of the same kind as that on which our own anthropoid precursors subsisted, it is deserving of the closest study. Unfortunately we know very little of the habits, dietetic or other, of these animals under natural conditions and have to rely mainly upon a study of them in captivity.

The orang.—This ape is thought by some to be entirely vegetarian; at all events there does not appear to be any evidence that it destroys living animals, but Weyers has known an orang in captivity to relish fish, meat, fowls, eggs, and live grasshoppers which it appeared to appreciate greatly. Under natural conditions it includes among its vegetable foods the durian, rambutan, and mangosteen. According to Wallace the orang is frugivorous, living chiefly on fruits, many of which are intensely bitter, and more rarely on shoots and tender leaves. Salomon Müller also regards this ape as exclusively vegetarian. In its search for food it has to wander, and when a favourite fruit is ripe it is to be seen in the region where the fruit grows; hence it is found in the South of Borneo in April and May when the fruit of the ficus infectoria is ripe. Besides fruit the orang's food, according to Müller, is composed of buds, flowers, and young leaves. The stomach of an old male that had been shot contained strips of mucilaginous bark from one to two feet long, as well as some white grains of sandoricum Indicum *intact*, "without a trace of having been masticated." According to the Dyaks the wild orang rarely takes animal food, and Müller's experience of the tame animal bears out this view. "We have offered him fowls and other live birds and meat without his touching it." Brehm says that the tame orang does not like insects, and he records of one of them that having killed a sparrow it plucked its feathers, took a bite of the flesh, and rejected it with disgust. Dupont refers to another similar case, adding that its keeper told him that he had observed among other anthropoids a strong liking for birds before they had acquired their feathers and an indifference to them after they were fledged. Weyers asserts that during the season the orang subsists almost entirely on fruits, especially the durian; some Malay families subsist exclusively on this fruit during the season. The orang has been observed to crouch down at the water's edge and to imbibe the liquid by suction. When pursued it will pelt its aggressors with broken branches and the thick, thorny outer husk of the durian fruit.

The gorilla.—Very little is known of the habits of this animal in the wild state. Du Chaillu maintains that it is exclusively frugivorous and asserts that he never found anything but vegetable food in the stomach of those he "had had the good luck" to shoot. On the other hand, Famelart, who lived 12 years in Africa, asserts that he has seen both the gorilla and the chimpanzee eat eggs, young birds, rodents, and insects and that they will devour young birds without plucking the feathers. Hartmann gives a list of fruits on which the gorilla subsists, many of which the natives find quite inedible, mainly no doubt owing to the presence of a large admixture of cellulose and unpalatable ingredients. Koppenfels watched a gorilla family consisting of the parents and two young ones; the female climbed up a wild mango tree and shook down the fruit. On another occasion he saw a male, female, and two young ones when they were feeding: "The head of the family remained at his ease, while his wife and children plucked fruits for him from a small tree which stood by, and if they were not sufficiently nimble, or if they took too large a share for themselves, the old gorilla growled furiously and inflicted a box on the ear." Gorillas rob the cane plantations and rice fields of the negroes. They are said to devour the bodies of animals killed in hunting and even those of men. "Like most species of apes, the gorilla preys upon the smaller mammals, upon birds and their eggs, and upon reptiles. The gorillas which have been kept in confinement in Berlin have been quite omnivorous and have displayed a special taste for animal food" (Hartmann). Falkenstein is convinced that the gorilla is by nature a hunter and carnivorous. His gorilla was accustomed to "eat anything."

The gibbons.—Owing to the great timidity of these animals it is very difficult to study their natural food and authorities are somewhat contradictory as to what it consists of. Weyers has seen wild gibbons eating insects, larvæ, ants' eggs, birds' eggs, and fledglings. Bennet's tame gibbon would seize and greedily devour a live lizard, and snakes of considerable size are said to be torn in pieces by them. Another tame gibbon would search the house most diligently for spiders. They catch birds with wonderful precision and sometimes devour them, though Martin mentions the case of a gibbon which having caught a bird contented itself with plucking its feathers. This authority also tells of a tame gibbon which refused all kinds of animal food and of another which besides vegetable food subsisted on milk and eggs. The wild gibbon is known to eat several varieties of fruit and leaves; it appears to be especially fond of green vegetable food. The gibbons at the London Zoological Gardens are very partial to lettuce.

The chimpanzee.—Buffon's chimpanzee ate the ordinary food of man, including meat, but preferred fruit. Chimpanzees are said to wander about in search of fresh feeding grounds.

The keeper in charge of the big apes at the London Zoological Gardens regards them as almost entirely vegetable feeders. Speaking from an experience of 20 years, during which time he has had under his charge a number of chimpanzees, gibbons, and orangs as well as two gorillas, he informs me that they have rarely shown a liking for animal food. It should be noted, however, that the vegetable food he gives them is much more delicate and appetising than that which they could secure in the natural state, consisting as it does of cultivated fruits such as oranges, lemons, and bananas, and including boiled

farinaceous food such as rice; further, that they are always supplied with a sufficiency of it and are never permitted to feel the sharp pinch of hunger. With an abundance of such delicate and appetising vegetable food at their disposal it is hardly surprising that they should show little liking for raw animal food. Dupont maintains that the great apes are, in the natural state, essentially frugivorous, and lays stress on the fact that animal food has never been found in the stomach of one that has been shot in its native forest. He acknowledges, however, that in captivity they learn to eat much the same kind of food as civilised man, and he points out that no animal below man takes so readily to artificially prepared food as the great apes, a proof, he thinks, of the affinities between him and them. "What has struck me," writes Weyers, "in observing monkeys in captivity, is the preference they show for the cooked foods over raw foods. They eagerly devour cooked rice, vegetables, fish, beef, chickens, the bones of which they carefully pick and then break in order to extract the last particle of marrow."

From an examination of the teeth of anthropoid skulls in the admirable collection in the Hunterian Museum of the Royal College of Surgeons of England, I should judge the orang and the chimpanzee to be more frugivorous than the gorilla. Of ten gorilla skulls examined, in only one—that of an old female—are the teeth greatly worn, though in that one so greatly that the dentinal canals of the incisors are actually exposed. It is true that most of the other gorilla skulls appear to belong to young adults but their teeth are surprisingly little worn. Their condition suggests that their owners must have subsisted largely on animal foods and that the aged female, being less successful in procuring these, was compelled to fall back on vegetable food which needed abundant mastication.

In striking contrast to the condition of the teeth of the gorilla is that of the teeth of the orang and chimpanzee; with scarcely an exception their teeth are much worn. Of 12 orang skulls examined, in only one quite young adult can the teeth be said not to be worn; in two or three older, *but still quite young adult skulls, they are decidedly worn*, while in one orang skull even the milk teeth are greatly worn. Nothing could better show that these animals must consume a large amount of vegetable food requiring abundant mastication. Of eight chimpanzee skulls examined, in only one (young adult) are the teeth not worn. In one of these skulls the dentinal canals of the incisors are exposed. The museum is not well supplied with gibbon skulls; the teeth of those I examined are not much worn; one is struck with their smallness as compared with the teeth of the other anthropoids. A word in passing concerning the teeth of the baboons. They appear to me to be of a much more carnivorous type than those of the great apes and to admit of very little lateral movement; those of the skulls examined are little worn, if at all.

Summarising now our knowledge of the diet of the great apes we may conclude that, as in the case of the monkeys, they are mainly frugivorous, meaning by this that their vegetable diet consists chiefly of the more concentrated vegetable varieties, but that they are also animal feeders. The gorilla is apparently the most carnivorous; the orang the most vegetarian. It seems likely that animal food is most eagerly sought after by the anthropoids when vegetable food is scarce; insects, grubs, vermin, lizards, snakes, rats, mice (and other small mammals), birds' eggs, and birds are then devoured. I have seen no mention of their consuming fish in their natural state, though one can well believe that they may do so upon occasion. Nor have I met with any evidence of their eating honey, but seeing that this valuable and toothsome food enters into the dietary of many monkeys which are much below the anthropoids in intelligence one can scarcely doubt that the latter indulge in it when opportunity offers. Gum is probably also eaten by them. Their vegetable food consists, as in the case of the monkeys, of seeds, fruits, young shoots and leaves, succulent barks, and possibly also of roots, though of this there is no direct evidence. One fact stands out prominently regarding the vegetable food of the anthropoids—namely, that much of it is from its coarseness and acridity unfit for human consumption, showing that the coarser and less tasty varieties have been gradually discarded by the evolving man as the means of procuring other kinds of food have increased. Koppenfels's observation on the part which the female gorillas and the young take in procuring vegetable food for the males is of great interest in view of the custom prevailing among all primitive peoples of relegating much of the work and most of the drudgery, including the collection of vegetable food, to the female section of the community. The statement that chimpanzees wander about in search of fresh feeding grounds is also of interest, as suggesting that our anthropoid precursors were not strictly stationary.

It will thus be seen that the diet of the primates below man—i.e., both of the monkeys and the great apes—is mainly vegetable and, further, that so far as these animals are vegetable feeders they are essentially frugivorous, as distinguished from herbivorous, their food consisting not, as in the case of the herbivora, essentially of grasses, leaves, and young shoots, which in order to provide a sufficiency of nutriment require to be consumed in large quantities, but of the more concentrated fruits and seeds; in short, the diet of these primates, as of all highly intelligent animals, is a concentrated one, consisting of concentrated vegetable foods and to a less extent of the highly concentrated animal foods.

Our study of the food of the primates enables us now to draw the following deductions regarding that of our anthropoid precursors. The descendants of beings whose diet was largely herbivorous they themselves were in the main frugivorous, subsisting on the larger seeds and fruits, as well as on leaves and young shoots, probably also on roots (which were scratched or pulled up), gum, honey, and the bark of certain trees. Much of the vegetable food was dense and coarse from the large proportion of cellulose it contained, and disagreeable to the human palate from the presence of sour, bitter, and acrid principles. Much of it also, owing to its great denseness, demanded vigorous mastication in order to break up the cellulose framework, and this led to a considerable wearing down of the teeth, just as it does in existing anthropoids (with the exception, perhaps, of the gorilla) and to a considerable buccal digestion of the contained starch, most of it being converted within the mouth into dextrine and maltose and only a small fraction passing unaltered into the stomach. During this diet epoch, therefore, the amyolytic functions of the small intestines were not greatly called into requisition. Judging from what has been observed in the case of the gorilla we may assume that even at this early stage the lordly males allowed their wives to collect their vegetable food for them. The animal food consisted of grubs, caterpillars, ants, ants' eggs, snails, insects (e.g., spiders, grasshoppers), and the like, reptiles (e.g., lizards, snakes), birds, birds' eggs, the smaller mammals (e.g., rats and mice), possibly also shell-fish from the lakes and streams as well as occasional fish. Water was drunk either by suction or by dipping the hands into it and then licking them. There can be little doubt that these primal anthropoids employed stones and branches of trees against their aggressors, a practice which led the way in a later era to the fashioning of stone and wooden implements. They probably kept to within comparatively narrow limits, only changing their abode in search of new feeding grounds and not wandering long distances like the carnivora.

(To be continued.)

INFANTILE MORTALITY

IN recent numbers[1] of THE LANCET we have drawn attention to some important revelations of the Duke of Devonshire's Committee on Physical Deterioration respecting the excessive waste of life which still persists among certain sections of our infant population. Year after year in reviewing the local statistics of mortality we have remarked on the danger of accepting a normal death-rate at all ages as proof of a satisfactory condition of the public health. Experience shows that by such means an excessive infantile mortality often escapes detection in the presence of a low general death-rate. From this point of view the committee seems to us to have done good service by emphasising the point, of which there is abundant evidence, that whilst sanitary administration has effected great saving of life at later ages the records of infantile mortality still remain a dark page in our national history.

That the public conscience as regards this subject is at

[1] See THE LANCET, August 6th, p. 390; August 20th, p. 557; and Sept. 10th, p. 785.

length aroused may be gathered from the fact that the *Times* has lately devoted several columns to a consideration of the sacrifice of child life which the committee's report shows to prevail in several parts of the country. The death-rate of any unhealthy district, if properly analysed, will show that it is among young children mainly that insanitary conditions produce the greatest havoc. Most of the infectious diseases that contribute so largely to the general death-rate are fatal chiefly at ages under the fifth year. The national returns indicate that among the most destructive infantile maladies measles, whooping-cough, and so-called "atrophy" are fatal at these ages to the extent of from 93 to 97 per cent. of the mortality thus caused at all ages, whilst diarrhœal diseases, as well as tuberculous affections of the brain and abdomen, are fatal then to the extent of from 70 to 72 per cent. of the respective totals.

It is to be regretted that in some health reports the deaths from diseases which are mainly incidental to particular ages, instead of being shown in terms of the population living at those ages, are still exhibited as a proportion of the entire population without distinction of age, thus obscuring the real issue, if not indeed leading to erroneous conclusions. We therefore note with satisfaction that in the last two reports of the Registrar-General the subject of infantile mortality has achieved a prominence to which it is fully entitled as the chief factor of the general death-rate. To the report for 1902, for example, Dr. John Tatham contributes a section on the causes of mortality among infants and young children which will repay perusal (see p. lxvii.). In order to provide a standard by which may be judged the mortality of any district whether in town or in the country, Dr. Tatham has made two selections, one from among the urban counties and the other from among the rural counties of England, containing aggregate populations of 18,000,000 and 4,000,000 respectively, and for these areas he has calculated average death-rates in the last quinquennium: (1) among infants under one year in terms of registered births; and (2) among children under five years in terms of the living at that age.

The following tables are excerpts from the report above referred to:—

AVERAGES 1897–1901.

TABLE I.—*Deaths under One Year per 1000 Births.*

Causes of death.	Boys.		Girls.	
	Urban counties.	Rural counties.	Urban counties.	Rural counties.
All causes	186	142	155	113
Measles	4	2	3	2
Whooping-cough	5	5	6	6
Diarrhœal diseases	43	22	39	18
Tuberculous diseases ...	9	5	7	4
Nervous diseases	24	21	19	16
Respiratory diseases ...	30	22	24	17
Wasting diseases	50	48	41	38

TABLE II.—*Deaths under Five Years per 1000 Living.*

Causes of death.	Boys.		Girls.	
	Urban counties.	Rural counties.	Urban counties.	Rural counties.
All causes	70·8	45·4	60·0	36·7
Measles	3·9	1·4	3·6	1·3
Scarlet fever	0·9	0·3	0·9	0·3
Whooping-cough	2·8	2·2	3·4	2·5
Diphtheria	2·0	1·0	2·0	1·0
Diarrhœal diseases	13·7	6·1	12·0	4·8
Tuberculous diseases ...	4·5	2·5	3·7	2·0
Nervous diseases	7·9	5·9	6·1	4·4
Respiratory diseases ...	13·0	8·1	10·8	6·5

The foregoing tables give the mortality for both sexes separately but the extended tables from which these are summarised show that among infants of both sexes under one year of age English mortality from all causes averaged 157 per 1000 births in the five years 1897–1901. Taking both sexes together it is found that in the same period out of every 1000 children born in the urban counties 170 died and only 128 in the rural. Among the several causes of death the most fatal are wasting diseases, which cause an average mortality of 43 in the country and 45 in the town; diarrhœal diseases, a mortality of 20 and 41 respectively; nervous diseases, a mortality of 18 and 21; and respiratory diseases, a mortality of 27 and 20. Among children under five years of age a similar rule obtains, for they die much more rapidly in the urban counties than in the rural. Referring again to the extended table in the report we find that, taking boys and girls together, the mortality under five years in the urban counties is equal to 65·0 per 1000 living at that age, against 41·0 in the rural counties. From every one of the diseases or groups of diseases in the second table the mortality is very much greater in the town than in the country and this is true whether the mortality of both sexes in the aggregate or that of each sex separately be put in comparison.

We commend these tables, or, rather, the unabridged tables from which the foregoing have been derived, to the notice of medical officers of health, most of whom will doubtless possess the original report which contains them. To a health officer desirous of ascertaining how far the infantile mortality of his district is in excess or in defect of the average the figures here alluded to will be instructive and useful, and will render unnecessary on his part elaborate and tedious calculations. In another part of the report Dr. Tatham expresses regret that he is unable to furnish annual tables of infantile mortality in time for comparison with the local returns for the same period, which returns medical officers of health are required to furnish to the Local Government Board within six weeks of the close of the year to which they relate. The quinquennial average rates, however, are available and their employment for purposes of comparison may be resorted to without fear of serious error.

VISIT OF FRENCH PHYSICIANS AND SURGEONS TO LONDON, OCT. 10TH-12TH, 1904.

A MEETING of the English Executive Committee was held at the Examination Hall, Victoria Embankment, on Monday last at which various matters in connexion with the forthcoming visit were discussed and in some cases decided, the details in others being left to the General Purposes Committee to deal with. The following members of the committee were present:—

Sir WILLIAM H. BROADBENT, Bart., in the chair.
Mr. Henry T. Butlin, Dean of the Medical Faculty, University of London.
Dr. A. D. Waller, Physiological Laboratories, University of London.
Professor C. Stewart, Conservator of Museum, Royal College of Surgeons of England.
Dr. H. Morley Fletcher and Mr. D'Arcy Power, St. Bartholomew's Hospital.
Dr. C. Theodore Williams and Dr. S. H. Habershon, Brompton Hospital for Consumption.
Mr. C. H. Golding-Bird, Guy's Hospital.
Dr. E. F. Bashford, Imperial Cancer Research Fund.
Dr. C. J. Martin, Lister Institute of Preventive Medicine.
Sir R. Douglas Powell, Bart., and Dr. W. Pasteur, Middlesex Hospital.
Dr. F. E. Batten, National Hospital for the Paralysed and Epileptic.
Dr. William Ewart, St. George's Hospital.
Mr. Henry E. Juler and Dr. Sidney P. Phillips, St. Mary's Hospital.
Mr. G. H. Makins, St. Thomas's Hospital.
Dr. Frederick T. Roberts and Dr. Sidney H. C. Martin, University College Hospital.
Dr. Donald W. C. Hood, West London Hospital.
Mr. L. A. Bidwell, West London Post-graduate College.
Dr. F. W. Mott.
Mr. Thomas Wakley, jun.
Dr. Boyd B. Joll.
Dr. J. Dundas Grant, joint treasurer.
Dr. Dawson Williams and Dr. W. Jobson Horne, secretaries.

We are informed that several physicians and surgeons have expressed a wish to entertain a certain number of our French brethren at dinner or lunch and others doubtless may

be glad in this way to extend hospitality to our visitors. It is felt, however, that if the invitations be left to individual initiative some confusion might ensue which may be avoided if gentlemen wishing to entertain will at once communicate with Dr. Donald Hood, 43, Green-street, Park-lane, London, W., giving the names of any private friends whom they specially wish to invite and leaving it to the General Purposes Committee here or to the French Organising Committee to suggest a given number of others who might, for instance, belong to any special department.

Amongst the arrangements made are the following:—The Editors of THE LANCET will entertain some of the visitors at luncheon on Monday, Oct. 10th; the Dean of the Faculty of Medicine of the University of London (Mr. H. T. Butlin) will extend a like welcome on Tuesday, Oct. 11th; the asylums committee of the London County Council has given a cordial invitation to the visitors to inspect any of the London county asylums, including the newly-opened working colony for insane epileptics at Ewell. It has been suggested that a visit might be made to the committee's pathological laboratory (of which Dr. F. W. Mott is the director) at Claybury on Wednesday, Oct. 12th. Luncheon will be provided for the guests on that occasion and Mr. E. J. Horniman, L.C.C., chairman of the pathologist subcommittee, will act as host.

We append a first list of subscriptions:—

	Subscriptions.				Further guarantees.		
	£	s.	d.		£	s.	d.
Sir William H. Broadbent, Bart....	5	5	0	.....	5	5	0
Sir Thomas Barlow, Bart.	2	2	0	.....	3	3	0
Sir Joseph Fayrer, Bart.	2	2	0	.....	3	3	0
Sir R. Douglas Powell, Bart.... ...	2	2	0	.....	3	3	0
Sir Dyce Duckworth	2	2	0	.....	3	3	0
Sir Anderson Critchett	5	5	0	.....	—		
Dr. Abercrombie	2	2	0	.....	3	3	0
Mr. L. A. Bidwell	2	2	0	.....	3	3	0
Mr. H. T. Butlin	2	2	0	.....	3	3	0
Dr. H. Radcliffe Crocker	2	2	0	.....	3	3	0
Mr. George Eastes	2	2	0	.....	3	3	0
Dr. D. Ferrier	2	2	0	.....	3	3	0
Mr. C. H. Golding-Bird...	2	2	0	.....	3	3	0
Dr. J. Dundas Grant	2	2	0	.....	3	3	0
Dr. S. H. Habershon	2	2	0	.....	3	3	0
Dr. Donald W. C. Hood...	2	2	0	.....	3	3	0
Dr. W. Jobson Horne	2	2	0	.....	3	3	0
Dr. Robert Hutchison	2	2	0	.....	3	3	0
Dr. Percy S. Jakins...	2	2	0	.....	3	3	0
Mr. H. E. Juler	2	2	0	.....	3	3	0
Mr. G. H. Makins	2	2	0	.....	3	3	0
Dr. W. Murrell	2	2	0	.....	3	3	0
Dr. George Ogilvie...	2	2	0	.....	3	3	0
Mr. T. H. Openshaw	2	2	0	.....	3	3	0
Dr. F. W. Pavy	2	2	0	.....	3	3	0
Dr. Sidney Phillips...	2	2	0	.....	3	3	0
Mr. D'Arcy Power	2	2	0	.....	3	3	0
Dr. F. T. Roberts	2	2	0	.....	3	3	0
Dr. F. M. Sandwith	2	2	0	.....	3	3	0
Mr. Walter G. Spencer	2	2	0	.....	3	3	0
Dr. Frederick Taylor	2	2	0	.....	3	3	0
Dr. H. Tilley	2	2	0	.....	3	3	0
Mr. Thomas Wakley, jun.	2	2	0	.....	3	3	0
Dr. A. D. Waller	2	2	0	.....	3	3	0
Dr. W. Hale White...	2	2	0	.....	3	3	0
Dr. Dawson Williams	2	2	0	.....	3	3	0
Dr. Theodore Williams	2	2	0	.....	3	3	0
Mr. J. M. Carvell	2	2	0	.....	—		
Dr. W. S. Colman	2	2	0	.....	—		
Dr. W. Pasteur...	2	2	0	.....	—		
Dr. Knowsley Sibley	2	2	0	.....	—		
Dr. Andrew Wylie	1	1	0	.....	2	2	0
Dr. E. F. Bashford	1	1	0	.....	1	1	0
Dr. W. Ewart	1	1	0	.....	1	1	0

HEALTH AND SANITATION OF LAGOS.

Sir William MacGregor in his report founded on the blue-book of the colony of Lagos for the year 1903 mentions, *inter alia*, that in 1902, on the reorganisation of the medical services in West Africa and the formation of the West African medical staff, a considerable increase was made in the salaries of medical officers in Lagos, which were fixed on the following scale: principal medical officer, £800 to £1000, by increments of £50 a year; senior medical officer, £600 to £700, by £20 a year; European medical officers, £400 to £500, by £20 a year; and native medical officers, £300 to £350, by £10 a year. The salary of a European medical officer is now the same as that of a district commissioner. Up to the revision of the scale of medical salaries these officers were not allowed private practice without special permission; they are now entitled to it unless it is expressly withdrawn. The addition of one medical officer was made to the staff in the year under review.

In connexion with the increase of expenditure it is pointed out that the medical requirements of the railway have, since the opening of the line in 1902, been added to the duties of the department. Also, much of the time of one officer has been given to the service of the Lagos Ladies' League, a body of workers who are associated together for the purpose of reaching, and supplying medicines to, the poorest and most inaccessible of the inhabitants of the town of Lagos. Special provision was made for providing the league with medicines. Nearly all the officers of the department have, with Government assistance, attended special courses of instruction on tropical diseases and two have received such particular training as would fit them to perform the duties of bacteriologist and pathologist respectively, for which some specific addition to their salary has been provided. An increase was also made to the medical expenditure for employing a larger number of vaccinators, also to enable the principal or other medical officer to visit more frequently the districts of the interior.

Much trouble has been taken in the effort to spread some knowledge of the elements of hygiene in the community. Lectures on sanitation have been delivered at Lagos by Mr. W. H. W. Strachan, Mr. W. H. G. H. Best, and Dr. C. J. Lumpkin, the courses by the two former being printed. Lectures were also delivered at Badagry by Dr. Read, at Epe by Mr. O. Sapara, at Ibadan by Mr. T. E. Rice, and in the interior by Mr. Strachan, Mr. W. A. Cole, and Dr. Obasa. After attending an elaborate course of lectures on sanitation by the principal medical officer the teachers of the primary schools subsidised by the Government who had been able to obtain by examination first- or second-class certificates taught hygiene in their schools, and for those children who successfully underwent an examination in the elements of hygiene there was paid a Government grant on the same basis as for reading or writing. The scholars presented for this grant in aid numbered 388. Of these 228 were successful. The sum of £20 was voted by the legislature for special prizes to the school children who proved themselves most proficient in the subject of sanitation. At the school exhibition held in December 44 school children from seven primary and two secondary schools took part in the competition and the judges reported that "the majority of them showed sound knowledge of the elementary laws of health."

Nearly all European and many native officers take prophylactic doses of quinine. Prisoners take ten grains weekly in one dose. One prisoner is employed to catch all the mosquitoes met with in the prison. In the seven months from June to December (both inclusive), 1903, this prisoner caught 1471 anopheletes and 1385 of the culex species. No general medical report has been received for 1903 but the senior medical officer states that "the health of the prisoners was excellent."

The communicable nature of malarial fever and the fact that it is a preventable disease have led to the use of a printed form that is now filled up by the medical officer in the case of an attack of fever in the person of any officer which shows what necessary precautions have been taken or been neglected in each case. The tables of sickness and mortality show that a steady improvement has been taking place in the health of Lagos.

It was estimated that provision was made in 1901-02 for the expenditure altogether of a sum of upwards of £30,000 on services connected with sanitation and about £28,000 were actually disbursed in 1902-03.

The work of reclaiming swamps has now proceeded sufficiently far to demonstrate its great utility to the most unobservant.

UNIVERSITY OF MANCHESTER.—The new public health laboratories are now approaching completion and will be ready for lectures and practical work in public health on Friday, Oct. 14th.

POVERTY IN RELATION TO DEATH AND DISEASE IN MANCHESTER.

Dr. James Niven, medical officer of health of Manchester, takes in his current annual report refreshingly comprehensive views in his survey of the health and disease of the people. He seems to us to appreciate to the full the undoubted fact that preventive medicine must enlarge its scope if it is to continue to reduce the general death-rate and if, more particularly, it is to make substantial advance in promoting the physical fitness of the people and to create an impression upon such diseases as infantile diarrhœa and measles. Dr. Niven, in fact, appreciates what we have endeavoured to teach in our columns for some years, that true preventive medicine is largely made up of social forces and that much which is placed to the credit side of its account is largely, though of course in no sense entirely, due to the improved well-being of the people; in a word, to the greater distribution of wealth. Considerable space is devoted in the report before us to what is termed "the physical progress of the community" and the writer as the result of his considerations as to the alleged deterioration of the people concludes that as regards children (1) there has been a steady improvement in the health of school children for many years, but that (2) education must be greatly retarded by the large proportion of children suffering from mental or physical defects unfitting them to learn. Dr. Niven is not disposed to regard the appalling categories of defects recently revealed in the condition of school children as evidence of degeneration so much as an indication that preventive medicine in the proper use of the term has yet its work to do. He thinks that supervision by medical examination alone is quite insufficient and in his view it should be the duty of the school teachers, who should themselves be properly taught by medical men, to see to the physical welfare of the children. Dr. Niven urges, as we have ofttimes urged, that every child should be measured and weighed once quarterly and that a careful record of such data should be kept. He insists, however, that no child should be instructed, much less drilled, who does not receive the amount of nourishment sufficient to insure normal growth. And here naturally comes in the problem which is being so actively debated in the *Times*, the feeding of the underfed. But Dr. Niven suggests that even if this difficulty could be surmounted there would still remain the problem of how the underfed in pre-school years were to be nourished properly.

The remedy proposed for this difficulty is one with which we are quite in sympathy, although in one sense it must be for the moment a stone to those who beg for bread. In the education of the school children we see with Dr. Niven the most practical solution—partial solution we had better say—of this problem. Could the wastage in food and drink in connexion with the poor person's life be prevented his poverty would be far less, and by teaching children a subject which, as Herbert Spencer has insisted, is now neglected—that of domestic economy in all its branches—we should be laying sure foundations for a better superstructure in the future. The children should be taught not only how to cook, to sew, to mend, and to wash, but also how to feed, to clothe, and to tend infants, while the older children should be offered special prizes for knowledge as to how to expend a given sum of money in the way most calculated to provide the highest nutritive values. Dr. Niven is in a sense an optimist. He inclines to the view that the diminished death-rate at the younger ages of life indicates something more than the progress of curative medicine. He suspects that this lowered mortality implies that there are less sickness and greater resisting force—i.e., that we are not by artificial means raising up a weaker race which, were the outward environment to become more severe, would wither and die. We hope that Dr. Niven is right. But whatever may be the real answer to these questions which he raises the problems themselves are of all-absorbing human interest and they are extremely refreshing in comparison with the somewhat restricted views of many medical officers of health.

Dr. Niven's discussion on "Poverty as Productive of a High Death-rate" is also very interesting reading. As he says:—

> When one comes to reflect on the various causes productive of ill-health and of that more intense form of ill-health which ends in death, the influences of poverty and more particularly of unsettled poverty loom larger and larger. There are a great many who die virtually of starvation year by year. There is little doubt that the vagrant classes are at present increasing. They are the terror of the country in summer and the disease carriers of the town in winter. No one who has seen much of the inhabitants of the lower class of common lodging-houses can help considering whether it is inevitable that great numbers of men should sink so low. Many of them can and do work, perhaps earn 25s. to 30s. a week. Their lodgings cost them 2s. a week; their food perhaps 5s. What becomes of the rest? Others, again, more thrifty of health and effort, work a few hours in the morning and are amply supplied. These men, unshackled by family cares and expenses, keep down the price of labour and the standard of life.

Dr. Niven then discusses with a fulness which our space will not allow us to follow the forces which make for vagrancy and here again he sees the remedy in the "kind and quality of the instruction imparted to children generally." The married man, as the author says, is subjected to a severe competition from the inhabitants of common lodging-houses, and this organisation of casual labour might be directed to the preferential employment of married men. But is not the real cause of the increase of the common lodging-house vagrant of a certain sort the growth of selfishness, the indisposition to work more than is necessary to supply the physical wants of the individual; in other words, the absence of ambition and of self respect? If this be so, the remedy is really in a better moral education. And perhaps this is in Dr. Niven's mind when he says, "There is but one way to cope with this social danger. The children must be educated, and well educated, in such a manner as will enable them to meet with confidence the difficulties and temptations of life"; and "If this object is to be achieved the education authority must see that these children are adequately fed so that they may grow normally and so that the enormous development and laying out of brain protoplasm necessary for educational purposes may be promoted." We entirely agree but here we again feel ourselves confronted with the free feeding obstacle or, at any rate, something akin to it.

Some very interesting figures are also presented in the report illustrating the intimate connexion between poverty and death in urban districts as indicated by the Manchester figures. The indices of poverty which are taken are the death-rates of those inhabitants who end their lives in the union hospitals and in other institutions, the former indicating a deeper degree of poverty than the latter:—

TABLE I.—*Average Annual Death-rate (corrected for the Census Figures 1891 and 1901) for 1891–1901 amongst Persons Dying at Home, in Union Hospitals, and in other Institutions; also the Different Death-rates for the City and its Three Main Divisions.*

—	Home death-rate.	Work-houses death-rate.	Hospital death-rate.	All death-rate.
City	18·69	2·96	1·62	23·27
Manchester township... ...	21·45	6·09	2·51	30·05
Northern	16·64	0·81	1·26	18·71
Southern	18·26	2·36	1·30	21·92

These figures tell their own story. But in order to eliminate the fallacy which might arise from taking the death-rate at all ages Dr. Niven furnishes the following tables relative to the death-rates at different periods of life, such deaths including those which occur in the union and in other hospitals from all causes and also from pulmonary tuberculosis:—

TABLE II.—*Showing Deaths from all Causes.*

Division.	All ages.	0–5.	5–15.	15–25.	25–45.	45–65.	65 and upwards.
Manchester township	30·05	104·72	5·26	5·68	16·69	45·88	127·89
Northern	18·71	66·24	3·80	4·37	8·74	27·32	101·22
Southern	21·92	78·46	4·03	4·67	10·65	32·23	112·45
City	23·27	82·19	4·30	4·86	11·77	34·96	113·87
Deaths from Phthisis (Pulmonary Tuberculosis).							
Manchester township	3·21	0·47	0·53	1·84	5·68	6·22	3·85
Northern	1·29	0·23	0·26	1·40	2·21	1·99	0·76
Southern	1·87	0·47	0·35	1·54	3·12	3·17	1·41
City	2·08	0·40	0·38	1·58	3·57	3·75	1·91

He has selected pulmonary tuberculosis because in his view, and we are here quite in agreement with him, it "is a disease which eminently reflects the influence of poverty, being determined by overcrowding, physical privation, anxiety, want of rest, and all the factors which are dependent on poverty." That is to say, that the reduction of the prevalence of this already waning disease is overwhelmingly, in relation to other causes, a social problem, and the sooner this fact is appreciated the better will it be for future generations.

As is shown by the table last given, the death-rate from phthisis in the Manchester township is at childhood and at ages 25–44 more than twice, at ages 45–64 three times, and at ages above 65 more than five times as great as that in Northern Manchester, and in connexion with the main thesis of this article it may be added that similar, though smaller, differences at nearly every period of life are manifest in respect of measles, whooping-cough, diarrhœa, nervous diseases, diseases of the circulation, pneumonia, and other respiratory diseases. Do we thoroughly appreciate what all this means in relation to the scope of preventive medicine and, if so, had we better press the meaning to extremes? But Dr. Niven has carried his investigations to a further point and by adopting a line of inquiry similar to that pursued by Mr. Rowntree in the city of York he has shown what a very large class there is in Manchester which is without the means to secure adequate nourishment for bodily efficiency. Our readers who take an interest in these problems will remember that Mr. Rowntree was able to establish the fact that over one-tenth of the population of York were in a condition of what he termed "primary poverty"—i.e., they were unable to procure the necessities of existence. As Dr. Niven states, it is necessary fully to appreciate the meaning of primary poverty. The stunted child is nature's method of expressing insufficiency of food and a stunted body is but too frequently accompanied by a contracted mind. "If," says the report before us, "a man has not enough to eat he cannot do his work. To save his life, therefore, he must shirk work. The badly fed man is inefficient of necessity. If he cannot shirk work sufficiently, so that his food provides for the internal work of his organs and animal heat and the work he does, he takes disease and dies. It is a process very costly to the community, though worse evils might attend the wrong remedy."

Now proceeding upon the same general lines adopted by Mr. Rowntree at York, and making due allowance for the current price of food in Manchester, Dr. Niven found that it is possible to obtain a bare subsistence diet for a man for as little as 3½*d.* per diem but that allowing for the necessity for variety probably 5*d.*, or even 7*d.* in most families, is the smallest amount for which an adequate diet could be obtained. Dr. Niven then had inquiries made with respect to the circumstances of a number of families such as are usually visited by the health visitors of the Ladies Public Health Society and it was found that out of 76 families so visited seven could not afford a diet equivalent to 3½*d.* per man, while 46 could not afford 7*d.* per man. From an analysis of all his figures it was concluded by Dr. Niven that 29 families must have been suffering from actual insufficiency of food. We should very much like to see this inquiry extended and elaborated and it would be well if medical officers of health of other towns would initiate inquiries upon similar lines. There can surely be no question that inquiries of this nature are the very essence of public health, unless, that is to say, it is contended that the "disease" called insufficiency of food is not capable of alleviation. Inquiries of this sort will at least bring out one point and that is the need for education in the matter of procuring the greatest food values for a given expenditure of money. With knowledge of this nature many persons who are at present practically starving could be furnished with a sufficiency of food and with a due appreciation of the extravagance of alcohol much money might be diverted from physiologically useless into physiologically productive channels. We are fully aware of the social and political strife which is not unlikely to arise out of questions of this nature and public health in its own interests should avoid politics as it avoids the plague. But preventive medicine may fairly ask, and our sanitary authorities who are now the education authorities have a right to insist, that the children shall at least be taught how to procure their nutriment as economically as possible. Herein is a partial alleviation of poverty which preventive medicine must use every endeavour to promote.

Looking Back.

FROM

THE LANCET, *SATURDAY*, SEPT. 30, 1826.

VISIT OF BARON DUPUYTREN AT GUY'S HOSPITAL—OPERATION OF LITHOTOMY BY MR. KEY.

On Tuesday last, that illustrious French surgeon, Baron Dupuytren, visited Guy's Hospital, and went round the wards with Sir Astley Cooper. The circumstance of his being about to visit the Hospital being generally known on the preceding day, a large concourse of pupils assembled to meet him, by whom he was received with marked attention and politeness. He immediately proceeded round the wards with Sir A. Cooper; amongst the cases which were pointed out as particularly worthy of notice, were the case of strangulated hernia related in this week's reports, a case of empyema, and compound fracture of the cranium.

A long discussion ensued between Dupuytren and Sir Astley Cooper in Accident Ward, on the subject of fracture of the neck of the thigh bone. We understood the former to assert the possibility of ossific union taking place; he said that he had a preparation illustrative of this fact, which he would take care to forward for Sir Astley's inspection. The treatment usually adopted by him in fractures of the neck of the thigh bone, he said was, to place the limb on a double inclined plane, and he usually found that the parts had united at the termination of eighty days, that is, about double the length of time usually assigned for the union of fractures in other parts of the thigh bone. When Dupuytren was about to enter the Accident Ward, Sir Astley Cooper turned round, and addressing Mr. Key and Mr. Callaway in his usual jocose manner said, "Now if you have got a *good* fracture of the thigh, and one *properly* done up, let the Baron see it, but for God's sake do not shew him one of the *ram's horn* cases which every now and then happens."

Dupuytren objected generally to the beds used in this Hospital; he recommended first a straw mat, then a flock mattrass, and lastly on this a flock bed. After seeing several other cases, he proceeded to the operating theatre, in order to witness the operation of lithotomy by Mr. Key.

The patient, a boy about five years of age, was placed on the table; the straight staff was passed without difficulty, and Mr. Key effected his incision into the bladder with his accustomed dexterity. The forceps were now introduced, and speedily afterwards Mr. Key withdrew them, and passing his finger through the wound into the bladder, turned round, and looking aghast, exclaimed, "*The stone is not in the bladder, it is in an abscess at the neck of the bladder.*" It was somewhat unfortunate that Mr. Key should have made this remark, for on raising the forceps, he found that the calculus had been withdrawn, and was then actually between the blades of the instrument, but it was so small that it had previously escaped observation. The satisfaction depicted in the operator's countenance on making this discovery, may readily be conceived. Sir Astley Cooper afterwards remarked to a pupil, (apparently with great feeling,) it is fortunate for the honour of Guy's Hospital, that the operation terminated in this satisfactory manner.

"The best thing you could have done," said Sir Astley to Mr. Key, "if you had not found a stone, would have been to hang yourself up by the neck." (What says Ben Travers to this?)

Dupuytren expressed his approbation of Mr. Key's operation in the highest possible terms of praise; he said that he had frequently seen the operation performed with much dexterity, but never "more promptly, more decisively, or more happily (*bonheur*) than on the present occasion."

Baron Dupuytren, after the operation, visited the museum, the Lecture room, and other parts of the new buildings. When he took his leave of Sir Astley Cooper, he saluted the worthy baronet on each cheek; the manner in which Sir Astley submitted to this ceremony, afforded no small share of amusement to the pupils standing round, which was heightened by his observing, "Well, I am even with the Baron, for I saluted his daughter yesterday, when he was out of the way."

A scene worthy of the pencil of Hogarth occurred in the presentation of the Pharmacopœia Guyensis (plurimum aucta et emendata) to Dupuytren, by the venerable Stocker—the standard-pestle of Guy's Hospital.

THE ANNUAL REPORT OF THE COMMISSIONERS IN LUNACY.

THE fifty-eighth report of the Commissioners in Lunacy—that for the year 1903—which has just been issued is in the familiar form. As compared with the volume for 1902 the work has increased in bulk to the extent of 18 pages and it consists, as usual, chiefly of appendices. In the first 83 pages, which contain the report proper, a summary is given of the matters to which importance is attached and here the main elements of novelty are an account of an inquiry into the erection of temporary buildings at asylums and remarks upon the increasing size of county asylums. The former investigation was undertaken in consequence of the disastrous fire which in January, 1903, caused the death of 51 persons at Colney Hatch. A schedule was issued to all the asylums at which temporary buildings were in use and the particulars obtained from the returns made formed a basis for sundry recommendations which are here detailed, and which, so far as they have been carried into effect, have mitigated the danger from fire which patients occupying structures of wood and iron incur. Referring to the other topic above mentioned the Commissioners say that they are "unable to view without grave concern the modern tendency to undue increase in the size of asylums for the insane poor," and they assert that the system is not justified "on the ground of convenience and economy." Arguments are given to show that the "serious financial burden which the continually increasing accumulation of the insane poor is imposing upon the community" can be diminished by adopting the Commissioners' suggestions. Large asylums, it is alleged, "are not maintained at rates which prove their economical superiority" and this statement is based on figures given in the report for 1902. The Commissioners further maintain that "the greater absence of reposeful conditions and the consequent diminution of comfortable existence in the largest as compared with the more moderate-sized asylums is apparent to us at our visits to those of both classes and this cannot fail to be in itself a hindrance to the attainment of the best curative results," but they admit that statistics "fail to prove this." In connexion with the same subject the Commissioners repeat the opinion expressed in former reports that something might be done to diminish expenditure "by the building of asylums of simpler forms of construction, in which the aged and harmless class of patients who are now removed in increasing numbers from their homes and from the wards of workhouses into asylums which have been built and are fitted for acute cases might be accommodated and maintained at a somewhat cheaper rate." By means of returns obtained through the keeping of special registers the Commissioners are able to show that the larger asylums yield the highest proportion of attacks of dysentery, "as may be expected in the case of a disease which is undoubtedly communicable," the figures being 16·5 attacks per 1000 for asylums having more than 1000 patients, as against 14·1 per 1000 for asylums with from 500 to 1000 inmates. A list of prosecutions for offences against the Lunacy Acts is given. The concluding paragraph of the report contains a statement to the effect that the Commissioners are overworked. This is explained by the steady increase in the number of institutions and of patients confined in them; thus five asylums and 3200 patients were added to the list in 1903 and there is little prospect that the tide will ebb.

In regard to the question whether lunacy is on the increase, we learn from the report that on Jan. 1st, 1904, the ratio of the insane per 10,000 of the population was 34·71, with a total of 117,199, while on the corresponding day of 1903 it was 34·14, with a total of 113,964. In other words 1 person in 288 was insane on the former date compared with 1 in 293 on the latter. The 117,199 insane persons were composed of 9551 private patients, 106,771 pauper patients, and 877 criminal patients. Of the 106,771 pauper persons of unsound mind 83,468, or 78·17 per cent., were maintained in the county and borough asylums, hospitals, and licensed houses, and 16·66 per cent. in workhouses. The number of admissions in 1903 was 22,217, distributed as follows: county and borough asylums, 19,815; registered hospitals, 738; metropolitan licensed houses, 726; provincial licensed houses, 481; naval and military hospitals, 285; Criminal asylum, Broadmoor, 75; and private single patients, 97. Of the 22,217 admissions 18,363, or 82·6 per cent., were first admissions. The patients discharged as "recovered" in 1903 numbered 8299. Of these 7262, or 87·5 per cent., were discharged from the borough and county asylums. The recovery rate in proportion to the admissions (exclusive of transfers and readmissions) was 37·35 per cent. The total number discharged as "not recovered" was 7704, but from this should be deducted 5465 who were discharged on transfer to other institutions and also 97 who were technically discharged owing to the lapse of reception orders under Section 38 of the Lunacy Act, 1890. The absolute discharges under this head were therefore 2142, or 9·64 per cent. of the admissions. The deaths amounted to 9233, or 33 below the total for 1902. The death-rate reckoned upon the average daily number resident was 10·20 per cent., which is slightly less than that for 1902. The daily average number resident in 1903 was 90,517, of which number those in county and borough asylums formed 91·6 per cent. In the long list of the causes of death given in the report the following are the numbers attributed to a few of the diseases: apoplexy, 269; organic disease of the brain, 253; epilepsy, 425; locomotor ataxy, 12; general paralysis of the insane, 1458; phthisis, 1394; cancer, 233; and enteric fever, 25. There were 28 cases of suicide, and 96 deaths were due to other forms of accident or violence.

ASYLUM REPORTS.

Glasgow District Asylum, Gartloch (Report for the year ending May 15th, 1904).—The average number of patients resident during the year was 879, comprising 462 males and 417 females. The admissions during the year amounted to 292—viz., 162 males and 130 females. Of these 231 were first admissions. Dr. Hamilton C. Marr, the medical superintendent, states in his report that "many of the physical and almost all the moral sources of insanity are caused by the abuse of the privileges that civilisation brings and this abuse is naturally greater in direct ratio to the prosperity of a community. In persons who have inherited or acquired a predisposition to insanity the mental equilibrium is, in these circumstances, more easily disturbed and the conditions of civilised society provide many opportunities, apparently trivial in themselves (e.g., the study of the solution of picture puzzles in the case of two admissions), which are sufficient to percipitate insanity by rousing the mind to exercise and stimulating it without strengthening it." In 32 per cent. of the admissions alcoholic intemperance was the chief factor. "Many of these patients had begun to take alcoholic liquors as early as 12, 13, or 14 years of age, when the nervous system was most impressionable. ..... If the mind is at all susceptible to the influence of environment and if prevention is more rational and cheaper than cure facts such as these are a strong argument in favour of temperance teaching in schools." In at least 50 per cent. of the cases there was an ancestral history of insanity or drunkenness. "In the worst class of these degenerates," adds Dr. Marr, "a judicious course of treatment has three results—an individual who would become useless to the community, dangerous to others, and suicidal, is so taken care of that the insanity does not develop; he becomes harmless, though it may be [in some cases] necessary to confine him in an institution. ..... An asylum is not a place for the most effective treatment of these cases. As soon as the patient recovers from his attack of insanity resulting from drinking the law demands that he should be discharged as no longer insane. ..... Inebriate reformatories such as exist in this country are occupied mainly with a criminal class of the community into which few of the inebriates fall. Inebriate reformatories such as are found under the law of 'curatel' in Austria, or closed colonies, still remain the best means of dealing with the inebriate." The number of patients discharged as recovered during the year amounted to 138—viz., 63 males and 75 females, or 15·7 per cent. of the daily average number resident. The deaths during the year amounted to 86, or 9·7 per cent. as calculated on the same basis. Of the deaths five each were due to epilepsy, cardiac disease, and apoplexy, seven to senile decay, 14 to general paralysis of the insane, 16 to pulmonary and other forms of tuberculosis, and the

rest to other causes. The Commissioners in Lunacy state in their report that the asylum was in good order throughout, that the inmates appeared to be well and conscientiously cared for, that the condition of the wards and dormitories was excellent, and that the medical case-books were well kept. They record with satisfaction the scientific work, both clinical and pathological, conducted by the members of the medical staff.

Wilts County Asylum (Report for the year ending March 31st, 1904).—The average number of patients resident during the year was 976, comprising 438 males and 538 females. The admissions during the year amounted to 159—viz., 76 males and 83 females. Of these 134 were first admissions. Mr. John Ireland Bowes, the medical superintendent, states in his report that the chief causes of insanity in the admissions were hereditary predisposition in 68 cases, previous attacks in 37, and alcoholic intemperance in 27 cases. There is, says Mr. Bowes, an increase of insanity from bodily disease, probably due to much intermarrying in Wiltshire, as compared with adjoining counties. The number of patients discharged as recovered during the year amounted to 59—viz., 26 males and 33 females, or 6·0 per cent. of the average number resident. The deaths during the year amounted to 64, or 6·5 per cent. as calculated on the same basis. Of the deaths four were due to cerebral hæmorrhage, five to organic brain disease, six to general paralysis of the insane, seven to senile decay, eight to cardiac disease, 11 to pulmonary and other forms of tuberculosis, and the rest to other causes. One male patient made his escape but was captured. The general health of the patients has been satisfactory during the year and there were no cases of infectious disease apart from the usual visitation of influenza and an outbreak of dysenteric diarrhœa. "Those affected with the latter disease were isolated as far as the congested state of the wards would allow and it is hoped," adds Mr. Bowes, "the disease has been cut off. Though many asylums have suffered from similar and much more extensive outbreaks this is the first occasion on which the disease has prevailed in epidemic form in this asylum. As there is no evidence of internal sanitary defects the overcrowding, particularly in the female division, may have conduced to its occurrence." The isolation hospital was occupied on August 3rd, 1903, and up to the present, and in the absence of other infectious disease, has been used chiefly for consumptive female patients, for whom it provides most comfortable and suitable accommodation. The Commissioners in Lunacy state in their report that the asylum continues to be maintained in excellent order, that the wards are very bright and cheerful and plentifully supplied with objects of interest, that the dormitories were clean and in good order throughout, that the new laundry had been finished and was in use, that the means of exit in case of fire were ample, that the patients were tidy and neat in personal appearance, and that the medical case-books were carefully and intelligently kept. The committee of management states in its report that a sum of £14,837 has been expended upon the new laundry, including its machinery and accessories, and upon new wells, pumping machinery, and mains.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8234 births and 4688 deaths were registered during the week ending Sept. 24th. The annual rate of mortality in these towns, which had been 18·2, 17·5, and 17·0 per 1000 in the three preceding weeks, further declined last week to 16·0 per 1000. In London the death-rate was 13·7 per 1000, while it averaged 17·0 in the 75 other large towns. The lowest death-rates in these towns were 7·0 in Burton-on-Trent, 7·0 in Hornsey, 8·3 in Willesden, 10·3 in Walthamstow, 10·5 in Barrow-in-Furness, and 10·9 in Bristol and in York; while the highest rates were 21·7 in in Warrington, 21·8 in Burnley, 22·2 in Merthyr Tydfil, 23·1 in Sunderland, 23·2 in Rotherham, 23·7 in Salford and in Middlesbrough, 24·6 in Bolton, and 25·3 in Hanley. The 4688 deaths in these towns last week included 971 which were referred to the principal infectious diseases, against 1636, 1512, and 1192 in the three preceding weeks; of these 971 deaths, 754 resulted from diarrhœa, 53 from diphtheria, 51 from "fever" (principally enteric), 50 from whooping-cough, 37 from measles, 24 from scarlet fever, and two from small-pox. No death from any of these diseases was recorded last week in Bournemouth; while they caused the lowest death-rates in Willesden, Hornsey, Handsworth (Staffs.), Wigan, and Rochdale; and the highest rates in Hanley, Grimsby, Warrington, Bolton, Oldham, Rotherham, Hull, Stockton-on-Tees, West Hartlepool, and Sunderland. The greatest proportional mortality from measles occurred in Birkenhead; from whooping-cough in Grimsby, Sunderland, South Shields, and Rhondda; and from diarrhœa in Hanley, Grimsby, Warrington, Bolton, Burnley, Hull, Middlesbrough, Sunderland, Tynemouth, and Merthyr Tydfil. The mortality from scarlet fever, from diphtheria, and from "fever" showed no marked excess in any of the large towns. One fatal case of small-pox was registered in Oldham and one in Stockton-on-Tees, but none in any other of the 76 towns. The Metropolitan Asylums Hospitals contained five small-pox patients at the end of last week, against nine, eight, and five at the end of the three preceding weeks; no new cases were admitted during the week, against two, two, and one in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 1820, 1816, and 1929 on the three preceding Saturdays, had further risen to 1969 on Saturday, Sept. 24th; 284 new cases were admitted during the week, against 266, 234, and 340 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 108, 129, and 141 in the three preceding weeks, further rose last week to 169, and were 34 above the number in the corresponding period of last year. The causes of 39, or 0·8 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Salford, Bradford, Leeds, Sheffield, and in 48 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Manchester, Preston, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 16·0, 15·7, and 16·5 per 1000 in the three preceding weeks, declined again to 16·0 per 1000 during the week ending Sept. 24th and corresponded with the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 11·2 in Greenock and 13·6 in Leith, to 17·9 in Dundee and 26·2 in Perth. The 529 deaths in these towns included 60 which were referred to diarrhœa, 17 to whooping-cough, three to measles, three to scarlet fever, three to "fever," and one to diphtheria, but not any to small-pox. In all, 87 deaths resulted from these principal infectious diseases last week, against 100, 86, and 103 in the three preceding weeks. These 87 deaths were equal to an annual rate of 2·6 per 1000, which was 0·7 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 58, 52, and 69 in the three preceding weeks, declined again last week to 60, of which 30 were registered in Glasgow, 16 in Dundee, four in Edinburgh, four in Aberdeen, three in Leith, and two in Greenock. The deaths from whooping-cough, which had been 26, 17, and 13 in the three preceding weeks, rose again to 17 last week, and included nine in Glasgow, four in Edinburgh, two in Dundee, and two in Paisley. The fatal cases of scarlet fever, which had been two in each of the two preceding weeks, increased last week to three, of which two occurred in Edinburgh, where, also, two of the three deaths referred to "fever," were recorded. The deaths attributed to diseases of the respiratory organs in these towns, which had been 53, 58, and 55 in the three preceding weeks, rose again to 66 last week but were 18 below the number in the corresponding period of last year. The causes of 16, or more than 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·9, 20·8, and 16·8 per 1000 in the three preceding weeks, rose again to 25·9 per 1000 during the week ending Sept. 24th. During

the past four weeks the death-rate has averaged 20·9 per 1000, the rates during the same period being 15·2 in London and 14·5 in Edinburgh. The 188 deaths of persons belonging to Dublin registered during the week under notice were 66 in excess of the number in the preceding week and included 34 which were referred to the principal infectious diseases, against 29, 32, and 17 in the three preceding weeks; of these, 28 resulted from diarrhœa, four from whooping-cough, one from measles, and one from "fever," but not any from small-pox, scarlet fever, or diphtheria. These 34 deaths were equal to an annual rate of 4·7 per 1000, the death-rates last week from the principal infectious diseases being 1·7 in London and 1·9 in Edinburgh. The fatal cases of diarrhœa, which had been 26, 26, and 14 in the three preceding weeks, rose again last week to 28. The 188 deaths in Dublin last week included 50 of children under one year of age and 44 of persons aged 60 years and upwards; the deaths of infants were slightly in excess of the number in the preceding week, while those of elderly persons showed a very considerable increase. Eight inquest cases and two deaths from violence were registered; and 65, or more than a third, of the deaths occurred in public institutions. The causes of nine, or nearly 5 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon James Crawford Dow has been placed on the Retired List, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets.

The following appointments are notified:—Fleet Surgeon G. A. Dreaper to the *Hermione*. Staff Surgeons: A. H. L. Cox to the *Hermione* and to the *Fox* on re-commissioning and C. T. W. Burton to the *Acheron*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel E. M. Wilson, C.B., C.M.G., D.S.O., retires on retired pay (dated Sept. 28th, 1904). The undermentioned Lieutenants to be Captains: A. W. A. Irwin (dated July 1st, 1904) and G. G. Thomson (dated August 3rd, 1904).

Lieutenant R. L. V. Foster is transferred from the Station Hospital, Jullundur, to the Station Hospital, Mooltan. Captain H. Herrick joins at Aldershot and is appointed Medical Officer in charge of the troops at Deepcut. Colonel P. M. Ellis is appointed Principal Medical Officer, 7th Division, Third Army Corps, and Colonel E. H. Fenn is appointed Principal Medical Officer, Thames and Woolwich Districts.

INDIAN MEDICAL SERVICE.

The King has approved of the retirement of the undermentioned officers:—*Bombay:* Lieutenant-Colonel Konaba Ranchhoddas Kirtikar (dated May 24th, 1904). *Bengal:* Lieutenant-Colonel Gilbert Saunders Griffiths (dated June 1st, 1904) and Major Narendra Prasanna Sinha (dated June 1st, 1904).

VOLUNTEER OFFICERS' DECORATION.

The King has conferred the Volunteer Officers' Decoration upon the undermentioned officers of the Volunteer Force:—*Home District: Artillery:* 3rd Middlesex Royal Garrison Artillery (Volunteers): Surgeon-Major Alfred Lingard. *Rifle:* 4th Volunteer Battalion the Royal Fusiliers (City of London Regiment): Brigade-Surgeon-Lieutenant-Colonel William Dakin Waterhouse. *Western District: Artillery:* 2nd Devonshire Royal Garrison Artillery (Volunteers): Surgeon-Lieutenant-Colonel Arthur Kyffin Crossfield (deceased). *Rifle:* 5th (The Hay Tor) Volunteer Battalion the Devonshire Regiment: Surgeon-Major Edgar Haydon. *North-Western District: Artillery:* 1st Volunteer Battalion the King's (Shropshire Light Infantry): Surgeon-Lieutenant-Colonel Frederick Knollys Pigott. 5th (Ardwick) Volunteer Battalion the Manchester Regiment: Surgeon-Major John George Saville, retired. *Scottish District: Artillery:* 1st Banff Royal Garrison Artillery (Volunteers): Surgeon-Major William Lemmon Stewart, retired. *Rifle:* 8th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Major Robert Kirk. 1st Dumbartonshire Volunteer Rifle Corps: Acting Chaplain the Reverend John McKeessor Webster. 4th (Perthshire) Volunteer Battalion the Black Watch (Royal Highlanders): Lieutenant-Colonel and Honorary Colonel Sir Robert Drummond Moncreiffe, Bart. *North-Eastern District: Rifle:* 4th (Nottinghamshire) Volunteer Battalion the Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): Brigade-Surgeon-Lieutenant-Colonel Frederick Henry Appleby.

THE STONEHOUSE NAVAL HOSPITAL.

Admiral Sir E. H. Seymour, G.C.B., Commander-in-Chief at Devonport, on Sept. 22nd inspected the Royal Naval Hospital at Stonehouse (Plymouth). After visiting the wards and inspecting the officers', nurses', and attendants' quarters the admiral was also shown the new hospital buildings which have been commenced and the details of further proposed buildings were explained to him.

THE WAR IN THE FAR EAST.

There has been but little news from the seat of war in the Far East during the past week. For the moment public attention has been occupied with the struggle at Port Arthur and diverted from the operations of the belligerents in the field in the vicinity of Mukden, where both sides have been hurrying up reinforcements and the munitions of war and where the Japanese are once again endeavouring by a great flank movement to envelop the Russian army. The prolongation of the siege of Port Arthur, the escape of General Kuropatkin's army from Liaoyang, and the apparent determination of the Russians to carry on the war until further opposition on the part of the Japanese can be borne down by mere weight of numbers and money have not, of course, been without their serious and sobering effect on Japan. But the gaps caused in their army by the thousands lost by wounds and sickness are promptly filled up and the warlike and patriotic spirit of the population of Japan remains the same. Although it is recognised that the war may be more protracted than was hoped at one time, the interval between this and winter has now become very short in which to make a supreme effort at decisive operations. The cold weather has set in more quickly than was anticipated and finds neither of the belligerents prepared with sufficient supplies of warm clothing, but efforts are being made on both sides to meet these requirements. Cold, wet, and windy weather prevails at Mukden. The Russian soldier stands, as might be expected, the cold much better than the Japanese who, sleeping now in the open in their khaki clothing, are quite insufficiently protected against it, but stores of winter clothing, we are told, are arriving. According to a despatch from General Kuropatkin the army under his command is healthy.

Prince Lvoff, who had been intrusted with plenary powers by the Zemstvos to arrange for assistance for the sick and wounded in the Far East, has left the front for St. Petersburg. General Kuropatkin, in taking leave of him, expressed the hope that he would soon see further detachments of ambulance men from the Zemstvos at the advanced positions, and particularly during the winter campaign.

At Port Arthur, where the attacks on that fortress have been recently renewed with greatly increased and desperate vigour, it is believed that several forts in the second line of defence have been captured. It is reported that General Stoessel's brave troops, in addition to all they have had to bear from repeated bombardments and fierce assaults, are not in at all a satisfactory state of health. Cholera is said to have broken out among them and although there have only been a few cases up to Sept. 19th grave fears are entertained that the disease may become epidemic. Although it is possible, of course, that the germs of cholera may somehow have been introduced from without into the besieged fortress it is most probable that the alleged cholera outbreak has been caused by a deficient and fouled water-supply. Prince Radziwill who managed to make his escape from Port Arthur to Chifu is believed to be the bearer of important despatches to General Kuropatkin. The Prince, in describing the situation at Port Arthur, gave some details of savagery that had been exhibited on both sides as illustrative of the horribly bitter feeling of the besiegers and besieged to one another. Severely blockaded as Port Arthur is at the present time, we can know little or nothing of the actual state of its defending garrison as to its general health, the number of sick and wounded under treatment, the disposal of the dead, and the sanitary state of the fortress generally. The Japanese, whose losses in their various assaults must amount to a very large total, are silent on these and all other subjects and can

probably know but little of the state of Port Arthur within. But it must be terrible as it is and bound to grow worse the longer the siege continues. Everybody will regard it as sad news that the wife of its brave and determined commander has been wounded in tending to the injured in hospital.

THE STATE OF THE RUSSIAN ARMY IN MANCHURIA AND THE RECENT REVELATIONS REGARDING GERMAN ARMY DISCIPLINE.

These are subjects which do not ordinarily come within the purview of medical journalists but they cannot be altogether ignored. One of the great causes of Russian failure in the field has been attributed to the fact that, however able General Kuropatkin and his generals might be and notwithstanding the courage and dogged determination of the Russian troops under their command, there were a great many commanding officers and others holding subordinate positions with regard to whom little or no reliance could be felt that they would carry out their plans in an enterprising and judicious way. The general orders discovered in the Russian headquarters at Liaoyang reveal a remarkable lack of discipline and efficient military training on the part of many of them. Nor can the evil be limited to the fighting operations only but it extends more or less to everything connected with military and departmental administration—the transport and supply of food and all the munitions of war, as well as the proper provision and distribution of the hospital and medical service in the field. General Kuropatkin deserves great credit for having taken strong punitive measures. As regards the disclosures which have been published about the barbarous and tyrannical way in which recruits and soldiers of the German army are liable to be treated by non-commissioned officers and others we can only trust that the alleged details are greatly exaggerated. From all we read it seems that they are the outcome of a dominating spirit of military arrogance which should be peremptorily curbed and for which, so far as we can judge, the punishments awarded have hitherto been very inadequate.

Correspondence.

"Audi alteram partem."

ANTE-NATAL NURTURE AND PHYSIQUE.

To the Editors of THE LANCET.

SIRS,—In the summary you give in THE LANCET[1] of the report of the Privy Council upon Physical Degeneration you lay emphasis upon the evidence given by Professor Cunningham and Dr. Eichholz with regard to the influence of ante-natal nutrition on the physique of the offspring. To quote your words: "Professor D. J. Cunningham, whilst subscribing to the opinion that such diseases as syphilis and alcoholism transmit their effects to the third and even the fourth generation, adhered firmly to the view that inferior bodily characters, the result of poverty and not of vice, are not transmissible from parent to offspring." Dr. Eichholz made some very emphatic statements with regard to the influence of the health of the mother on the nutrition of the fœtus. You say that Dr. Eichholz "recalled a medical factor of supreme importance—viz., the small percentage of unhealthy births among the poor, even down to the poorest. ..... The poorest and most ill-nurtured women bring forth as hale and strong looking babies as those in the best conditions. In fact, it almost appears as though the unborn child fights strenuously for its own health at the expense of the mother and arrives in the world with a full chance of living a normal physical existence."

May I point out that these opinions are by no means universally accepted? They are diametrically opposed to the observations and experiments of Dr. Noel Paton.[2] This writer concludes his paper with the remark that his experimental observations "warrant the conclusion that the size of the offspring depends very directly upon the diet and nutrition of the mother during pregnancy. While this explains the easy labours among the healthy lower classes and confirms Prochownick's conclusion that by dieting the mothers the children of rickety women may be so reduced in size as to be viable, it also probably helps to explain the very high infant mortality among the very poor. The infant starts life at a low level and readily succumbs to the hardships to which it is too often subjected." Again, to quote Dr. W. Leslie Mackenzie,[3] "How the conditions resulting from ignorance, or incapacity, or indifference, or economic conditions are to be remedied is too large a question to be discussed here. But that ante-natal malnutrition of children is a large factor in life and *a fortiori* in the school life of the child hardly admits of a doubt." And again, "That the physique of the child is largely determined by its ante-natal nutrition is extremely probable. It is maintained by experienced physicians that the length and weight of the child at birth depends on the feeding and nutrition of the mother during pregnancy." The same writer quotes the opinion of Dr. A. K. Chalmers, the medical officer of health of Glasgow, to the effect that the excessive mortality in Glasgow during the first three months of life is due in part to defective conditions which are ante-natal in their origin.

My own experience in the out-patient room entirely confirms the opinion that the nutrition of the mother has a very important bearing on the nutrition of the fœtus and that the statement that the percentage of unhealthy births among the poor is small is not justified by facts. We constantly see fully-developed infants a day or two old brought by midwives or neighbours exceedingly badly nourished, blue and feeble, and who are clearly ill-fitted, as the event indeed proves, to withstand the conditions of an external existence. There must be numbers of such born in this city that perish within a few weeks of their birth and who fail to thrive for even a day. There is no question of syphilis; they are the children of poor mothers who have lived lives of hard wear and tear during pregnancy, are themselves badly nourished and weakly, and have felt the pinch of poverty, though often perhaps poverty of the secondary sort. I have a strong conviction also that the infants of the poorer and weaker mothers, even though they are born fairly well nourished, are difficult to rear and readily waste even when under fairly favourable conditions in a home or hospital. How many of this class with hare-lips or cleft-palates who are taken into hospital when a few days old with the idea of "feeding them up" to prepare them for operation fail to thrive?

In the majority of infants seen for the first time when older, suffering from some form of malnutrition, it is of course, impossible to say for certain how far their miserable condition is the result of ante-natal conditions, though the history often points this way. I have no wish to minimise in any way the baneful effects of "feckless mothering," dirty milk, and insanitary surroundings, but I want to emphasise the fact that many of these infants start their independent life at a low level and are extremely susceptible to the untoward conditions to which they are subject. Is not the sperm-germ the starting point of the individual life? However strong may be the tendencies derived from ancestors, may not these be modified or intensified by environment during the months of early development? Are syphilis and alcohol the only disturbing elements? May not even the deep-lying characteristics of the individual be modified, as, for instance, in the case of Mongolian imbeciles, by an exhausted or weakly mother? I for one am very sceptical as regards the "unborn child fighting strenuously for its own health at the expense of its mother"; say, rather, that the new life shows more or less adaptability to abnormal environment, but adaptability has its limits and abnormal conditions are only too prone to bring disaster on the individual and in the long run help to mar the progress of the race.

I am, Sirs, yours faithfully,

Manchester, Sept. 20th, 1904. HENRY ASHBY.

THE MEDICAL REGISTER.

To the Editors of THE LANCET.

SIRS,—In the interests of the profession may I ask you to be good enough in your next issue to draw the attention of practitioners to the importance of keeping their addresses correct in the Medical Register. The chief points to which I should like to call attention are:—

1. The Register should not be confused with the Medical

[1] THE LANCET, Sept. 10th, p. 785.

[2] The Influence of Diet in Pregnancy on the Weight of the Offspring, THE LANCET, July 4th, 1903, p. 21.

[3] The Medical Inspection of School Children, p. 140.

Directory as is so often done. Changes should be notified to this office by practitioners themselves and in acknowledgment of every such notification a postcard is sent. 2. This year circulars of inquiry have been sent to all practitioners *who originally registered at the office of the Branch Council for England* whose names begin with letters from H to O inclusive. Any person whose name falls within those letters who has not received a circular should communicate with this office at once. 3. Anyone who is doubtful whether his address is correct should write to the office without delay.

In past years you have kindly done your best to assist me in my efforts to save practitioners from the grave inconvenience of finding that their names do not appear upon the Register because of the impossibility of getting into communication with them, and I hope that you will be good enough to continue to give me the benefit of your valuable assistance in the matter.—I am, Sirs, yours faithfully,

H. E. ALLEN, Registrar.

299, Oxford-street, London, W., Sept. 26th, 1904.

DEATHS UNDER CHLOROFORM AND THEIR PREVENTION.

To the Editors of THE LANCET.

SIRS,—I quite agree with Mr. T. D. Luke in the opinion that the most frequent and usual cause of death from chloroform is syncope. But I am not convinced that the syncope generally arises from two ordinary physiological actions of chloroform: (1) to produce vagus excitability, and (2) to abolish the vascular mechanism which compensates for the mechanical effect of gravity. I believe that the great majority of accidents, whatever their physiological mechanism may be, are accidents by overdose, and the fact that in 60 out of 63 such cases the patient died within the first few minutes of administration signifies, in my opinion, "overdose" rather than "underdose." I freely admit that it is not evidence of overdose. All I contend is that neither is it evidence that there has not been overdose.

I think that Mr. Luke does not realise to the full how suddenly and rapidly an overdose may take place. May I repeat the argument I urged at the Montreal discussion towards the realisation of this important point: "A patient into whom you may pour more or less chloroform vapour during more or less time, but who may not safely hold at any one moment in his body more than 600 c.c. of chloroform vapour. A pulmonary sheet of blood $\frac{1}{10}$ of a millimetre thick and 150 square metres in extent. An inspired volume of air of ten, or say five, litres per minute, carrying at say 5 per cent. of chloroform vapour something like 250 to 500 c.c. of vapour per minute. How soon is the patient liable to be overfilled?" Early death is then no proof of the absence of overdose. But my belief that overdose is the chief—I do not say the sole—factor common to the great majority of deaths by chloroform depends upon other considerations, and principally upon my daily experience of the laboratory. Whereas formerly I, in common with most other physiologists, was accustomed to lose many animals by irregular chloroform anæsthesia, now by regular anæsthesia with chloroform mixture maintained uniformly between the limits of 1 and 2 per 100 I never have a death. Therefore my conviction is complete that before we may inquire into idiosyncrasy, brand of chloroform, or any other unfavourable particularity, we should inquire how much of this most powerful drug has been exhibited. When this fundamental fact has been ascertained as far as it can be ascertained, but not before, it will become useful to study the details of favourable and unfavourable circumstances.

The danger of death by reflex arrest of the heart by reason of too little chloroform is not, in my opinion, a substantial danger. I am accustomed to say that we may as reasonably expect a man to be intoxicated because he has taken too little whisky as to be killed because he has received too little chloroform. But once realise that the intoxicating effect of chloroform, as of alcohol, is proportioned to the mass of the reagent, it then becomes reasonable and useful to study details of individual susceptibility.

I am, Sirs, yours faithfully,

Sept. 27th, 1904. A. D. WALLER.

PS.—I am also in agreement with Mr. Luke as regards his favourable opinion of ethyl chloride for rapid induction of anæsthesia, but this is distinct from the main issue.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Sept. 24th, p. 918, Mr. T. D. Luke makes a strong plea for ethyl chloride as a preliminary to general chloroform narcosis and gives, *inter alia*, a remarkably optimistic impression of the value of this method of inducing anæsthesia. Without doubt we have in this agent alone or in combination one of the most powerful aids to safe and successful narcosis—an agent, be it said, which can be employed by the general practitioner with far greater ease and immensely less danger than any of the other classic drugs, except nitrous oxide gas, at present in use.

My own experience with ethyl chloride has been considerable and I was early impressed with the necessity of supplying simple apparatus for general use. To this end I constructed a fixture as follows. I took the ordinary ether bag with valved angle mount and fitted this to a large face-piece, lining the latter with a circlet of lint about seven inches in diameter, and kept in position by a spring collar driven into the apex of the face-piece. This fixture was shown by Messrs. Arnold and Sons at the meeting of the British Medical Association this year. Nothing additional is needed but the spring collar. I feel sure if medical men generally were only aware of some simple contrivance of this kind they would be induced to give trial to ethyl chloride. It is not a little surprising that, in spite of the many obvious advantages to be gained by anæsthetising with this drug, so few men really take it up *con amore*. For long dental cases and operations in and about the naso-pharynx it is an ideal anæsthetic. The difference between 40 seconds (maximum N_2O allowance) and 90 seconds (average ethyl chloride allowance) permits an operator to work with greater deliberation and success. The temporary loss of cough reflex is of no practical importance and as the sitting posture is the one best adapted to this narcosis hæmorrhage is always well in view and under easy control. Many operations (on the eye, the nose, the throat, &c.) can be, and are, readily undertaken in the consulting-room with ethyl chloride, and the marked absence of congestion in the soft tissues is an invaluable gain to the surgeon. Long familiar with ordinary ethyl chloride as a freezing agent in minor surgery, many people still incline to the belief that gross impurities also exist in the various brands on the market prepared for general anæsthetic use. It may be said at once that ethyl chloride of British manufacture is thoroughly trustworthy, and I feel sure that any practitioner who will give his close attention to this drug and make trial of it in suitable cases will be more than satisfied with the results obtained.

I am, Sirs, yours faithfully,

A. DE PRENDERVILLE,
Anæsthetist to the London Throat Hospital, W.

Weymouth-street, Sept. 27th, 1904.

To the Editors of THE LANCET.

SIRS,—In common with Mr. Thomas D. Luke I have come to regard the ethyl-chloride-ether sequence followed by a mixture of ether and chloroform in prolonged cases as the safest, most rapid, and most convenient method of inducing narcosis. Chloroform unmixed with ether I rarely give; in my last 750 administrations pure chloroform was found to be necessary in less than 3 per cent. of the cases. Be the explanation what it may, the fact remains that chloroform is the most dangerous form of anæsthetic in general use and no amount of ingenuity in making elaborate machines for its administration can ever divest chloroform of its dangers. Tersely stated, Mr. Luke's recipe for preventing deaths under chloroform naturally consists in omitting the chloroform. As regards the form of inhaler for administration of ethyl chloride it is not yet generally recognised that a Clover inhaler is admirably suited for administration of all the anæsthetics in common use, including mixtures of ether and chloroform or chloroform alone, the bag, of course, being removed. Ethyl-chloride can be administered satisfactorily from any inhaler which possesses a facepiece and a bag, provided the administrator knows how to administer ether from a similar apparatus.

I have been repeatedly assured, with all due solemnity, by practitioners of many years' standing that they prefer to give

chloroform rather than ether. On further inquiry I usually find that the preference for chloroform is really a case of "Hobson's choice." The practitioner has only given ether a few times as a student, some 20 or more years ago, or, perhaps, not at all, and in saying that he prefers to give chloroform he means that chloroform is the only anæsthetic with which he feels moderately sure of being able to anæsthetise the patient. The real reason why chloroform with its discreditable death-rate is so largely used is because a large percentage of practitioners do not know how to anæsthetise a patient with ether. Fortunately the public are beginning to appreciate the relative safety of ether over chloroform, so that, in time, medical men will be obliged either to learn how to administer ether or to run the risk of losing their patients. Medical men who lecture to the laity on such subjects as "ambulance" and "first aid" might with advantage substitute for the differential diagnosis of the various forms of unconsciousness and the diagnosis of fractures and dislocations a few plain remarks on the relative safety of ether over chloroform as a general anæsthetic, especially in dental cases.

I am, Sirs, yours faithfully,

Plymouth, Sept. 25th, 1904. C. HAMILTON WHITEFORD.

FEVER IN CHILDREN CAUSED BY CARBOHYDRATE FOODS.

To the Editors of THE LANCET.

SIRS,—I am sure Dr. Henry Davy's paper in THE LANCET of Sept. 24th on the above subject has been read with interest by general practitioners whose work lies in any considerable degree amongst children. For myself the article had an enhanced interest in that I have been keeping under observation a series of these cases with the hope of describing them later, the condition being one that comes more within the range of the general practitioner than of the consultant. Experience tends more and more to convince me that there is one factor seldom, if ever, absent in these attacks—a factor to which Dr. Davy makes but passing allusion—the presence of adenoid vegetations in the naso-pharynx. Dr. Davy does not make it clear whether his encounter with the "very eminent throat specialist" who offered to remove his son's adenoids was a casual one and his offer purely speculative, or whether a digital examination was made of his son's naso-pharynx, this being the only reliable test for determining their presence or absence. He gives, however, the suggestive history of a severe attack of croup at two and a half years of age and of "colds during which he had a 'croupy cough' and was feverish" occurring frequently until he was seven years old; also of the severity of an attack of whooping-cough and of the febrile attacks thenceforward becoming worse. This is a type of a common collateral history of adenoids.

The process by which these growths cause such febrile digestive disturbances is simple to explain. Thorough mastication with saliva is essential to the proper digestion of starchy foods and if the patient uses his mouth instead of his nose for respiration he is apt, in order to get his breath, to bolt instead of chew his mouthful. In addition to getting this periodic consignment of undigested starch along with some of the other articles of diet condemned by Dr. Eustace Smith (jams, sweet cakes, carrots, and the like) the stomach is receiving from the nasopharynx a continuous trickle of muco-purulent secretion. Anyone who has removed adenoids knows the oftentimes most offensive cheesy matter which has accumulated in the crypts of these growths. Yet another factor to be considered is the increasing tendency of parents to ply children who do not seem to thrive with the various non-, semi-, or wholly-predigested starchy patent foods now so largely and persuasively advertised. (Dr. Harry Campbell makes some original and suggestive remarks in this regard in his article on the Evolution of Man's Diet in the current issue (Sept. 24th) of THE LANCET.) What more is required to bring about pathological fermentation with dilatation of the stomach, hepatic derangement, and the toxæmia and anæmia which accompany this condition? The state of affairs is very similar to that found in adults associated with oral sepsis from decayed teeth.

The occasional exacerbations are to be traced to such causes as an extra supply of indigestible food, reaction following excitement, the exactions of school life, fatigue, cold, or anything which may weaken the powers of resistance of the tissues to the toxins formed in the alimentary canal. I can see no necessity for relying on some obscure theory of pancreatic insufficiency to account for these attacks. Any inability of the pancreatic secretion to perform its function may be attributed to the high degree of fermentative acidity of the stomach contents when passed into the duodenum. So much attention has been given to the effects of adenoid growths on the respiratory organs that their evil influence on digestion has not even yet received its due share of recognition. The improvement in digestion and assimilation after clearing the naso-pharynx is, however, as striking as it is gratifying. Nevertheless, the febrile attacks do not always disappear at once. Habits of efficient mastication are not established immediately nor does stomachic dilatation become reduced forthwith. But the attacks are, as a rule, much less severe and tend to pass off as the child develops, and possibly as Dr. Campbell's "lost pharyngeal reflex" (which I have looked for in vain in my own children) becomes re-established.

There is a type of digestive disturbance, often febrile, which bears a clinical resemblance in many respects to the foregoing and which occurs in children of neurotic diathesis who may have no trace of adenoids. They are apt to follow any nervous excitement, such as a children's party, and are commonly attributed by the parents to the consumption of indigestible cakes. I think that in these cases the cause is to be found in the baneful influence which excitement exerts on the digestive secretions and in the tendency under the same influence to bolt food without mastication; probably also there is some pyloric spasm. They differ from the form associated with adenoids in the febrile element not being so marked, in their more rapid response to treatment by dieting, rest, and hepatic stimulants, and in the absence or slight degree of gastrectasis. In the adenoid type, moreover, there is more of a toxæmic element, as evinced by the greater collapse, the nocturnal and often offensive perspiration about the head and upper half of the trunk, &c. Furthermore, unless the child is living under the most favourable conditions, such as holiday making or careful dieting, there is in the adenoid type such evidence of digestive disturbance as poor or ravenous appetite between the attacks, whereas in the purely neurotic type it is commonly normal. I submit the foregoing observations as the outcome of my own experience, believing them on that account to have some measure of value. I trust that so distinguished a physician as Dr. Davy will not think me presumptuous or be in any way offended at the criticisms I have made bold to offer on his most interesting and valuable paper.

I am, Sirs, yours faithfully,

J. S. MACKINTOSH, M.R.C.S. Eng., L.R.C.P. Lond.

Hampstead, Sept. 24th, 1904.

THE BOILING OF MILK.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of August 27th, Sept. 10th, and Sept. 17th you print several letters more or less hinging on, and dealing with, the prevention of infantile diarrhœa by treating milk presumably bacteriologically unsound with a view to rendering it fit for the food of the young. Dr. T. R. Bradshaw and Mr. Cecil Revis advocate the addition of preservatives to milk, which appears to me to admit failure and surrender of human ingenuity to circumstances over which greater control ought to exist. Dr. A. S. Grünbaum very properly seriously calls in question the proposal of the above gentlemen. Dr. J. M. Fortescue-Brickdale and Mr. R. Bevan appear to advocate the boiling of milk as the simplest and best means of rendering it less toxic and pathogenic. Dr. R. Hingston Fox deals with the risk of scurvy as the result of patent foods and boiled milk and the same is mentioned by Dr. Fortescue-Brickdale and Mr. Bevan. As for boiled milk alone causing much scurvy or rickets, time and space preclude lengthy discussion, but I can confidently join issue with and strongly deny that boiling of milk is a considerable factor, if indeed a factor, in the causation of scurvy. I consider the question of boiled milk and scurvy the classical example in medical circles of "a little knowledge being a dangerous thing." The other day I met a junior member of the profession who had just had seven deaths in a month from "infantile diarrhœa" and was lamenting his fate. I asked

him what he had done and he said that he had tried all the patent foods and that they were "no good" (most of us can remember the time when everybody's patent food "cured" infantile diarrhœa—according to the proprietors). I suggested the efficacy of "boiling the milk" and *every feed* of milk. He retorted that he was told in hospital that boiled milk caused scurvy rickets, &c. I asked him if he had ever seen a case from boiled milk and he said "Well, not that he could really rely on." My reply was, "Well, you have seen seven deaths from 'unboiled' milk." He was also astonished to hear that during my 15 years' close observation of the feeding of infants in private and hospital practice I had not seen one single case due to boiled milk; *verb. sap.* So long as we have two schools of thought—the boiled-milk-scurvy-rickets school and the other-side school—so long shall we have a heavy infantile death-rate from diarrhœa. In my book "Intestinal Intoxication in Infants"[1] I dealt fully with every problem commonly arising in the etiology, prevention, pathology, and treatment of infantile diarrhœa, and the materials were gleaned from a prolonged experience of private and hospital practice and many of the facts stated were the result of original research carried out during the greater part of my medical career. This emboldens me to join in this discussion and to make a suggestion which I have been putting into practice lately with success.

The putrescibility of milk—ordinary cow's milk—is the factor to be dealt with. Why not get rid of this by removing the "water" from the milk, and by using a good, sweet, natural, soluble, and palatable milk powder put an end to the summer-heat and ignorant-person difficulty? During June, July, August, and September, when the earth thermometer reaches a well-known elevation, is the time when milk is most lethal to infants. Why not feed the children of the poor and ignorant, who cannot carry out sterilising directions efficiently, on dried milk powder? Indeed, why not feed all children on dried milk during the heat of summer and at other times if necessary or desirable? Dried vaccine, antidiphtheritic serum, and antivenene can be preserved dry and yet be efficient. Why not do the same with milk? Hitherto it has been impossible to obtain a soluble, non-cheesy, non-mawkish, cheap milk powder.

Messrs. Freud and Co., of 19, St. Dunstan's-hill, London, E.C., have provided me with a soluble, fresh, palatable, and cheap natural milk powder which I have used with much success, and they will, I am sure, send samples of the same to those of your readers desiring it. This milk powder has the following advantages: (1) it is cheap; (2) it can be prepared as a food very quickly; (3) it can be kept and transported to places where milk is difficult to obtain; (4) it will keep sweet and fresh for long periods of time; (5) pure milk can be made from it at all times; (6) it ensures the infant getting a "warm feed" and a non-poisonous one; (7) no more need be liquefied than is needed for a feed; (8) it is as nutritious and safe as boiled fresh milk and less dangerous than the average milk in most houses; (9) it cannot if kept dry be easily contaminated; (10) it can be used in any proportion as regards its albumin, fat, sugar, and salts; (11) it can be used to prepare "humanised milk"; (12) it is prepared from fresh, sterilised, natural milk without precipitation and by the instantaneous evaporation of its water only, &c.; (13) I have not yet come upon any sound objection to its use; (14) it is better than many samples of ordinary milk, for it is safe bacteriologically; and (15) it can be used turn about with good new milk, if new milk is scarce or is unobtainable, as during a hot night in summer. I trust that the above suggestions will provide material not for controversial purposes but to afford some means of combating what is, indeed, the most deadly scourge of infantile life.

I am, Sirs, yours faithfully,

F. W. FORBES ROSS, M.D. Edin., F.R.C.S. Eng.,
Gower-street, W.C. D.P.H. Lond., &c.

A VERY SIMPLE CONTRIVANCE TO AID MYOPIC AND OTHER FAILING EYES, ESPECIALLY IN READING.

To the Editors of THE LANCET.

SIRS,—As with failing eyesight I have received, especially in reading, for some years very considerable assistance from a very simple contrivance it may help some of your readers over a difficulty if I state very briefly and in quite simple terms what I have in view without subjecting it to any discussion on grounds of priority, as no doubt it has occurred to many people before. My eyes have been very myopic all along and have required very strong concave lenses which, however, modified by the process of aging, kept me very comfortable and in a certain sense as well off as the average man up to about ten years ago when a separation of the retina occurred in the left eye which entirely destroyed it for practical purposes and left me dependent for vision on the other eye in which I found there was a commencing, but happily not a perceptibly advancing, cataract. The problem therefore now is how to use the remains of power in this right eye so as to persevere as much as possible with my reading which, owing to my other infirmities, is more and more important for me as an occupation. Ever since the commencement of old age I have found that reading is best done without any lens and at a distance of four or five inches from the page. It is by economising and aiding this limited visual power that I find the contrivance above referred to is of the greatest use. It consists simply of a conical tube of light pasteboard material so prepared as to have diameters at the side applied to the eye of two and a quarter by one and a quarter inches, while the diameters of the opposite end of the cone (the one nearest the book) measure one and a half by one inches, the length of the cone being approximately two and a half inches. The machine is held in place by a simple bit of elastic and is so cut as to be adapted to the eye of the side on which it is applied and blackened within by some opaque application shutting off all accidental or useless rays. To prevent undue friction the edge next the face is guarded by a little velveteen and so the job is at once complete and anyone can either make it for himself or get it made at any stationer's. Were there any demand for such articles they might easily be turned out at a cost of a few pence. The service done is entirely by shutting off side rays and limiting the vision in area with corresponding distinctness in detail. I can most truly say that for the last year or two this little invention has enabled me to continue a reader even of very moderate-sized print under the difficulties above referred to.

I am, Sirs, yours faithfully,

Sept. 24th, 1904. W. T. GAIRDNER.

[1] Rebman, 1897, London.

THE HYGIENE OF THE BARBER.

To the Editors of THE LANCET.

SIRS,—In connexion with your article upon this subject in THE LANCET of Sept. 24th, p. 902, I should like to be allowed to point out that although the regulations which you suggest if strictly enforced would reduce to a minimum the risks which are now to be met with in a hairdresser's shop, there are still two other ways in which partial safety is to be found, at any rate in so far as hair-cutting is concerned. One way is by the establishment of visiting hairdressers who would use the personal brushes and combs of those they operated upon. I know of at least one hairdresser who gave up his shop and arranged with his customers to call upon them periodically at fixed dates. His charges were not raised, for he frequently attended upon several members of the same family at one visit and I believe he managed to make a fair income. Another way is to carry out a practice which is even now adopted to a limited extent, and that is to take one's own brush and comb when paying a visit to the hairdresser.

I am, Sirs, yours faithfully,

Sept. 27th, 1904. HERBERT JONES.

THE HOLMAN TESTIMONIAL FUND.

To the Editors of THE LANCET.

SIRS,—At a meeting of the committee held this afternoon it was decided to close the fund in a fortnight from the present date. In the meantime I may so far anticipate the final report as to state that the amount received will leave a net balance of a little over £400 to be expended on the object to which it was decided that the fund should be devoted, the erection of a room in connexion with Epsom College which will be a reading-room for the boys out of school hours and will also serve as a studio in which drawing may be taught while they are in school.

The original estimate was £500 and while £400 can be made to serve the purpose it is greatly to be desired that the comfort and convenience and appearance of the room should

be enhanced by a little extra expenditure. There must still be medical men who would wish to take part in the recognition of Sir Constantine Holman's valuable services, local and general, to the profession and the public, and more particularly of his unremitting and persevering work on behalf of the Epsom College, and it is hoped that they will send their subscriptions to the treasurer, Dr. J. H. Galton, Chunam, Sylvan-road, Norwood, S.E., without further delay. I am, Sirs, yours faithfully,

Brook-street, W., Sept. 27th, 1904. W. H. BROADBENT.

LAYMEN AND ELECTRICAL TREATMENT.

To the Editors of THE LANCET.

SIRS,—Away from the pretentious attributes "skilled" and "trained" in which Dr. E. Stanley Smith has enchased these worthies like so many flies in amber, the laymen who under the ægis of a mythic professional supervision practise electro-therapeutics are nothing if not unqualified assistants. The modicum of medical knowledge which they possess is infinitely less than that which formed the stock-in-trade of the scoriæ of our medical schools who erstwhile recruited the ranks of the unqualified assistant. The latter at least had a smatter of something more than the rudiments of "picture-book" anatomy. In many cases their course of study was the full curriculum required of all desirous of obtaining a qualification, yet they, nevertheless, fell under the ban of the General Medical Council.

It may perhaps be objected that these unfortunates can still be legitimately employed in any minor capacity, where strict attention to prescribed detail and not initiative are the postulata of service. From these premises it may be argued that the services of a non-medical electrician can be to a like extent made use of. Unfortunately, the validity of such an argument must ultimately depend on the degree of parallelism that can be established between the two cases. In order to do so it is requisite that the physician who prescribes electrical treatment should possess an adequate knowledge of the remedies he wishes to employ and, further, that he prescribes them with the same careful attention to detail as in the case of drugs. The art of prescription writing does not consist in simply informing the dispenser of the drugs one wishes to use. It demands that the special preparation of each drug selected for administration be mentioned as well as the exact dose which is considered most suitable. Other details, as to adjuvants, correctives, excipients, order of admixture, &c., must also be set forth, along with careful instructions as to the quantity of the mixture that constitutes a dose and the interval of time that must be allowed to elapse before its repetition. To prescribe electrical treatment without the same careful attention to detail exposes the physician who adopts this unmethodical course to a charge of covering, inasmuch as his directions are incomplete and leave more or less of the details of technique to the discretion of the lay assistant he employs to administer treatment. In an electrical prescription the exact nature of the current, its frequency of interruption or alternation, its tension, and amperage have first to be mentioned. These directions require to be supplemented by full details as to the method of application—in high frequency electricity alone there are no less than 23 of these—the kind of electrodes, their dimensions, their position relative to the nerves and other structures and to each other; this demands a knowledge of the differences of effect between an ascending and a descending current, &c. To attempt to prescribe electrical treatment without a knowledge of electro-physiology, of the indications and contra-indications of the various currents, of the modifications produced by the different methods of application, &c., is nothing else than *arrant quackery*, even though the prescriber be a duly qualified physician. I leave you to judge whether this or "a qualified man undertaking the routine treatment of such cases" is more derogatory to the dignity of the profession.

Dr. Stanley Smith's main objection to the qualified man who specialises electro-therapy is that he exercises his judgment in the selection of cases for treatment. It is, indeed, strange that the sterling integrity and self-sacrificing honesty of the qualified medical electrician do not appeal to his sympathies, more especially as he makes expense one of his standpoints. He appears to resent it and contends "that skilled knowledge of a special line of treatment does not put the electric practitioner in possession of all one's reasons for desiring a certain line of treatment in a particular case"; as if the fatuous reasons of an ordinary practitioner can weigh down the experience of an expert whose knowledge of the possibilities and limitations of electrical treatment is, to say the least, more extensive. Speaking of ethical principles, one cannot do aught else than admire the candour of his admissions. The electric expert, "of course, absolutely discouraged the patient, thereby preventing her giving electrical treatment a trial of sufficient duration to convince me of its value or otherwise in her case. Had I sent this patient to a lay electrician acting under my own instructions she would have continued the treatment as long as I thought it worth while." Gauged by the expert's opinion, the possibilities of such an experiment turning out an absolute failure, if nothing worse, are large.

I am, Sirs, yours faithfully,

Leytonstone, Sept. 17th, 1904. CLARENCE A. WRIGHT.

SOME POINTS IN THE PREVENTION OF EPIDEMIC DIARRHŒA.

To the Editors of THE LANCET.

SIRS,—Will Dr. J. T. C. Nash kindly inform your readers why so many breast-fed infants are suffering from diarrhœa now? I treat several such daily and although the mothers are instructed to wash the nipples before and after each feeding and to wear absolutely clean material next to the nipples this does not appear to improve matters. His fly and dust infection of food theory in THE LANCET of to-day does not cover these cases. I am, Sirs, yours faithfully,

Sept. 24th, 1904. PRACTITIONER.

A ROYAL SOCIETY OF MEDICINE.

To the Editors of THE LANCET.

SIRS,—Now that the Faculty of Medicine of the University of London is an established fact is the time not ripe for the consideration of the question of the organisation of a *Royal Society of Medicine* by the amalgamation of all the medical societies of London—some 25 in number—in one home, each one of which would be a division of one great Royal Society of Medicine? There being some 25 societies there would be required five rooms for each society to hold a meeting one night a week. There would also be provided one large hall in which the whole of the societies could meet on occasion for the discussion of common subjects. The office of president of the Royal Society of Medicine would be a much-coveted honour and each society, as at present, would have its own president and secretaries. A great library common to all the societies would be a necessity. Financially an equitable arrangement could be arrived at and the money for construction and organisation obtained by the disposal of the present premises of the many societies.

I am, Sirs, yours faithfully,

Sept. 26th, 1904. F.R.C.P. LOND.

THE CITY ORTHOPÆDIC HOSPITAL.

To the Editors of THE LANCET.

SIRS,—The situation in which the City Orthopædic Hospital, Hatton-garden, has been placed by the unnecessarily hard action of the Metropolitan Hospital Sunday Fund, as described by Lord Mansfield's letter, is one which calls for liberal and immediate help if the splendid work which this hospital has done in the free treatment of bodily deformities among the poor is still to be carried on. The only reason for the withdrawal of the large grant of the above-mentioned Fund is that the governing body of the hospital, after full consideration, refused to agree to a suggestion of amalgamation which in its opinion would make the hospital less efficient for its special work and would involve the enormous expenditure of subscribers' money without making more effective but rather interfering with the work for which it was given. Against the method and management of the hospital not a word is breathed. Bearing these facts in mind it ought not to need any strong writing to make a successful appeal, not merely to philanthropists who wish to see the work continued but also to all lovers of fair play who would not like to see the busiest orthopædic hospital in London wiped out by the arbitrary behaviour of the supporters of a scheme the

advantages of which have by no means been clearly proved. In appreciation of the good work done I am pleased to offer Lord Mansfield a donation of £100, provided that nine others will give a similar sum. I feel that these could easily be found if only the facts of the case were put before a sufficiently large number of people. I therefore ask you to give this letter and challenge as prominent a place as you can in your journal. I am, Sirs, yours faithfully,

Sept. 22nd, 1904. X. N.

MEDICAL NOTES FROM THE FAR EAST.

(FROM A SPECIAL CORRESPONDENT.)

(*Continued from p. 922.*)

Nagasaki, August 8th, 1904.

BY the courtesy of the Minister of Marine I received special permission to visit the naval hospital at Sasebo, four and a half hours' journey by rail northward from Nagasaki, but in the same south-westernmost island, Kiushiu. Sasebo is the chief naval base, at least in the present war, being possessed of a large, deep, and completely land-locked harbour closely surrounded by hills and situated on the coast nearest to the scene of operations. The other chief naval stations and the only other naval hospital of importance are in the Inland Sea, the hospital being at Kuré, a larger growing naval station, an hour by boat or rail south of Hiroshima. Sasebo is under martial law and every foreigner on the railway is cross-examined by a police-officer. The essential feature of the work at Sasebo is that 90 per cent. of the cases of ordnance wounds are inflicted by shell and not by bullet. Here then for the first time in history the science of shell-wounds is being studied under good modern conditions. For in South Africa hardly 5 per cent. of wounds, even early in the war, were inflicted by shell, and these were scattered up and down the country through a dozen different hospitals, so that a concrete study of their peculiar features was impossible. In the Spanish-American and Chino-Japanese wars there were few casualties from artillery. Wars previously to that date have no practical interest to the modern surgeon, as they have little to the modern artilleryman. So that although Surgeon-General K. Totsuka, F.R.C.S. Eng., who received me, had on his table Mr. G. H. Makins's book, the American official reports, and their own medical report on the war with China he had been unable anywhere to find any paper dealing with modern shell wounds. Even in Sasebo they do not get all the cases of shell wound in the navy, for over 30 have gone to the Kuré Hospital. And during the whole war so far there have been under 180 cases of shell wound in the navy brought to Japan. That means that under 180 have survived. But 145 of these have been at Sasebo and are brought there directly by naval hospital ship from the Port Arthur fleet in two days; so that they have been under proper observation and care from the very first. The report of the naval medical department, therefore, on the conclusion of the war will make a definite addition to modern surgical knowledge and is sure to be interesting reading, the more so as the three surgeons-general in the navy know English well, and I think I am right in saying that Baron Saneyoshi, their present director-general, like one of his precedessors, Dr. K. Takaki, who reorganised the sanitation of ships in the navy and abolished the scourge of beri beri, and his colleague, Surgeon-General Totsuka, is a St. Thomas's man and F.R.C.S. Eng. The director-general ranks as a vice-admiral, with two small stars on a broad gold stripe down the shoulder-strap. The other two naval surgeons-general rank as rear-admirals with one small star on a broad stripe of gold. The lower ranks of medical officer are called doctor and rank with navigating officers according to seniority. Captains of first and second grades and commanders wear three stars, two stars, and one star respectively between two narrow stripes of gold; first and sub-lieutenants and probationary officers wear three stars, two stars, and one star respectively on a single narrow gold stripe.

The difference between shell wounds and bullet wounds is absolute. The effect of the bullet depends on what important structure it may strike—bone, nerve, artery, or viscus. The treatment is the treatment of the bone, nerve, artery, or viscus injured. Without the bullet striking one of these structures the wound, if it be properly protected from the first, will heal by primary union. The effect on skin, fascia, and muscle is negligible. The effect of the shell, on the other hand, is a laceration either of a whole limb or the trunk as a whole, or else of the surface only. If it penetrates to the viscera it is almost invariably fatal. The wounds of those who survive to reach Sasebo are either surface wounds or mutilations of a whole limb. The treatment is usually either amputation or treatment of a superficial lesion. Treatment of individual bones, nerves, or viscera is extremely rare. Arterio-venous aneurysms are hardly conceivable. Penetrating fractures of the skull and penetrating wounds of the abdomen do not occur, at least to reach the surgeon's hand. The only visceral lesion that the naval surgeon may occasionally have to treat is a wound of the thorax carrying away a bit of the thoracic wall and damaging lung and pleura. One such case I saw. The man was wounded three months ago in the lower part of the right chest in the axillary line. But as there was a good opening from the first there was no room for the collection of blood, serum, or pus in the thoracic cavity. The only untoward result has been a certain amount of dry pleuritic adhesion and an irregular but not very large scar.

During the six months of the war there have been at Sasebo two cases of pneumothorax in which a shot, either bullet or shrapnel, remained in the chest, and two or three cases in which it had passed through and out again. Cases of gunshot wounds from bullet or shrapnel in the navy nowadays must almost invariably indicate fighting on land and these cases were incurred by men landed from the ships to assist in the fighting round Port Arthur. It is seldom now that ships of war approach each other near enough to make it worth their while to fire shrapnel. For the object of shrapnel is to kill or wound men, not to injure ships, and the aim in modern naval fighting is essentially to sink or to damage ships. In Nelson's days naval battles were necessarily at what we should now call close quarters and it was an attainable object to sweep the decks and to tear sails and rigging with musket and shrapnel fire so as to deprive the ships of all control. Now with torpedoes and long-range guns, with machinery instead of sails, and the whole protected in armour-plated bulwarks, conning-towers, barbettes, and 'neath decks below the water-line, the only methods of disabling a ship are to ram, to torpedo, or to breach the steel protection with heavy shell. Wounds on board ship therefore are usually the result of ragged splinters and sections of shell, but torpedo vessels the plating of which is under $\frac{3}{16}$ths of an inch thick offer little protection to their crew and may occasionally be subject to raking shrapnel fire. Shrapnel wounds differ from rifle-bullet wounds in having a special tendency to suppurate. The only case of shrapnel wound I noticed as of interest in the wards was that of a man hit a fortnight ago in the fighting round Port Arthur, in which the shrapnel bullet passed in behind the shoulder and was buried there; while another passed across the front of the elbow without touching bone, nerves, or artery, entering below the internal condyle and making its exit an inch above the external condyle. There was not a single case of penetrating abdominal wound. Head wounds were limited to scalp wounds or fracture of the face bones; there was one case in which a depressed fracture had been successfully treated by operation. The other cases noted were all of limb wounds.

[We have received from our correspondent minute clinical descriptions of cases which want of space will only allow us to publish in part. Accompanying the clinical details were photographs which we are unable to reproduce for the same reason. For these photographs our correspondent was indebted to the kindness of Dr. Habuto, the surgeon in charge of the photographic work.]

Very few cases had been serious enough to need amputation, from which fact two surgical inferences may be drawn—namely, (1) that few hopeless lacerations of a limb survive; and (2) that conservative surgery is now an attainable ideal in almost all cases that reach hospital. The myth that surgery on a battle-field consists of amputations and ligature is fully exploded.

I saw one arm stump and one leg stump. In the latter, which was the result of an amputation through the knee-joint, the artificial limb, light and well-made with good thigh-piece, waist-belt, and knee, ankle, and metatarso-phalangeal joint complete, had just been given its first or second trial. These limbs are made, of course, in Japan—whose carpenters, joiners, and cabinet-makers can hardly be equalled elsewhere—and are presented by the Empress of Japan. A man who suffered from clean-cut wounds

behind the elbow and in the posterior axillary fold had probably been struck by a shrapnel shot. He belonged to the *Shikishima* and was one of the many hundred who volunteered, and of the few who were selected, to take the six tramp steamers into the mouth of Port Arthur harbour and to sink them there in the face of a perfect typhoon of artillery from ships inside and forts above. He, however, survived to be nursed by Mrs. Totsuka, wife of the Surgeon-General. This lady wore the serviceable white uniform of all who nurse under the Japanese Red Cross. The female nurses employed in military hospitals are all engaged and paid by the Red Cross Society of Japan and many Japanese ladies are in this war for the first time admitted to help in the work, although their assistance is now restricted to the rolling of bandages and the fabrication of first field dressings. The social importance of this development can hardly be appreciated in England. The Red Cross uniform for nurses is simple and neat, consisting of a fairly full white cotton overall tied with white cotton sash round the waist, with a starched cap of the same material which, though hardly becoming, has the merit of confining those stray locks that not infrequently prove a source of anxiety to the aseptic surgeon. This cap usually bears on the forehead the distinguishing mark of a plain scarlet cross.

Five fatal cases have occurred in the hospital during the war. Deaths, it is commonly understood, are now of rare occurrence on the surgical side of a military or naval hospital, a change due to Lister's and Pasteur's work. And the further removed a base hospital is from the scene of operations the more complete should be the sifting out of all serious cases before they are sent down the line or across the sea to that base. But this is less so on sea than on shore; for the wounded at sea find the analogue of a field hospital in their hospital ships, which might just as well convey them to the base as remain with them in the neighbourhood of naval operations. One of the patients who died in the hospital was wounded by a shell on board the *Fuji*, his injuries consisting of a wound through the left popliteal space and the upper part of the right calf. Double gangrene set in and death occurred on the day after admission, no operation having been possible in the circumstances. After the event one has a suspicion that it might have been worth while to cut down on the site of the wound in each leg on board the hospital ship, as the gangrene may have been due to the pressure of extravasated blood and not to mere severance of the artery.

There was one interesting case of double injury from a single wound, where a splinter of shell had injured both ulnar nerve and flexor tendons, resulting in the hand being fixed in a modified position *en griffe*, with slight wasting of the interosseous muscles. For this case an operation for suture of nerve and loosening of tendons, with subsequent early movement and massage, although perhaps indicated, would be both difficult to carry out and of doubtful prognosis.

Shell wounds, then, are mostly lacerations of the soft tissues. But there is a further effect which is coming into increasing significance with modern artillery. When a shell bursts all men within a radius of several yards are in severe danger of burns from the explosion. When watching the artillery duel in the battle of Tashichiao, every shell explosion towards dusk appeared to us, 15 miles away, as a flash of light half as high as the hills on which it exploded and as broad as it was long. Although the duration of this light cannot have been one-fifth of a second, yet its brilliancy and extent suggest the injury it may inflict. At Sasebo they have had a very large number of cases in which burns have complicated wounds or have constituted the sole injury. These burns are clean, at least to the naked eye, and of varying depth down to the fourth degree. I did not see or hear of any case of charring or of bone being exposed and this would not be expected considering the short duration of the flash. Their treatment is the same as for ordinary burns; picric acid is occasionally used, especially for wounds that have become sluggish, but the routine treatment is the application of aseptic gauze, changed only every other day. This method has the advantages of the absorbent gauze and of the rest which allows fresh, delicate granulations and new skin after two or three days to resist removal with the dressings. Whether these would outweigh the apparent disadvantages it was impossible to determine at the time. The wounds have healed well and so far there has been no case of complication or after-effect. The scar is simply lighter in colour than the surrounding skin.

This hospital of 600 beds, at present only half full, is built in ten pavilions of light grey wood, plastered on the inside, roofed in grey tile, simply floored with common, unvarnished deal or its Japanese representative, standing two feet above ground on brick foundations, well-ventilated at floor-level and beneath the floor, and connected together by raised wooden corridors with overhanging roofs and wooden sides three feet from the ground. The spacious operating theatre, simply built with a proper view to light, space, and cleanliness, measures 20 feet by 30 feet, with walls 12 feet high, and the roof rising another eight feet to the centre of the room. Commendation of a simple theatre may perhaps be challenged, but there is, without a doubt, much to be said in favour of simplicity in theatre construction, seeing that, so long as no dust or other solid or fluid can accumulate, cleanliness of hands, dressings, and ligatures, and a careful aseptic method in operation and after-treatment are all-sufficient to prevent suppuration. If this be so it is best to have a cheap theatre which can be replaced at slight cost to suit the varying needs of successive surgeons and successive stages of scientific opinion and can be multiplied so as to permit of each surgeon having his own theatre as he has his own wards, rather than to spend money wantonly, according to this view, on marble halls with complicated patent tables and regal washhand basins and fittings. The former is the type of theatre which, with the partial exception of two in the University Ho-pital at Tokyo, is universal in the poor and practical country of Japan.

The Japanese surgeons, however, have imbibed from the Germans a rooted suspicion of tap water, even for the washing of their hands, and in Sasebo, as in all other hospitals, a complete apparatus for the sterilisation of water is considered an indispensable adjunct to the theatre. This is a logical tenet peculiar to the extreme aseptic school. In preparing for operation they wash their hands assiduously with soap (? sterilised) and sterilised water, following this procedure with the use of spirit, and although it was admitted that they did occasionally end up by immersing the hands in an antiseptic solution, the solution used proved to be a watery solution of perchloride of mercury which is unable to penetrate the fatty elements of the skin and is virtually useless. The dressings used are similarly aseptic gauze, wool, and bandages, sterilised on the spot immediately before use. The ligature in almost universal use is silk. The Sasebo surgeons belong, in fact, to the extreme aseptic school. Whether their results justify their methods or condemn them it was impossible to decide, although another hospital of no less importance has undoubtedly had more than its fair share of suppuration during the months in which my informant, with a considerable experience of American surgery, has worked in it. The struggle between rival methods is a mere question of bacteriological fact.

A shipload of patients had just been admitted and we went into the dressing-room to see the wounds being carefully examined, diagnosed, and recorded. Two or three of the chief officers engaged were in sterilised overalls and their method was complete, a pair of sterile forceps, for instance, in its transit in sterile tongs from steriliser to operator dropped on to clean mackintosh being rejected. Everything was done promptly and thoroughly, in good order, without the least bustle, worry, or assertion of authority. Discipline here is an instinct.

The only anæsthetic used is chloroform. Local anæsthetics have been almost entirely abandoned as unsatisfactory.

The Roentgen-ray room was well fitted up with a travelling wagon shelved and fitted to hold the 20 large tubes in stock. There was a large induction coil giving, however, only a seven-inch spark. There was no localisation apparatus; I believe there is none in Japan; and there are certainly not many cases for which it gives any further information than is gained by the cryptoscope with wire and other marks on the limb to preserve the line and planes for operation.

A large amount of the work of a naval hospital even in war time consists of accidents on board ship, crushes and lacerations from machinery or falling spars, engineering and gunnery tools, and the like. This affords therefore a good field of experience in fractures. It is noteworthy that Surgeon-General Totsuka has almost abandoned the use of wire and screws. Hodgen's splints are unknown, fractured femora being all put up in plaster spicas, even after arrival in hospital, when there is no further question of transport requiring immobility. A compound fracture into the knee-joint was well immobilised in plaster round the thigh and leg, with a five-inch gap for dressings, the bridge consisting of a stout, flat aluminium rod on either side.

This with silicate instead of plaster ought to make an ideally light, strong, and convenient splint. It is, of course, essential to keep the upper level of the gap as low as possible, the difficulty being to insure fixation of the thigh.

The medical cases were of no interest. The infectious ward was empty. There were 50 cases of venereal disease—considerably less than is usual in times of peace—six cases of typhoid fever, and a few slight cases of dysentery, besides the usual run of chest and abdominal disorders. The nursing appears to be good, the nursing staff consisting of six male nurses under one chief nurse for each ward, except in the two big pavilions erected by the Red Cross Society, which contain 36 patients each, 24 in the main ward and 12 in the five or six small rooms at the end, and are staffed by a Red Cross medical officer, sister, and ten female nurses, who sleep in a home outside the hospital. In all, there are cubicles for 20 officers, besides six private rooms. The total qualified staff consists of six surgeons and six probationary surgeons as assistants. The ordinary hours for medical officers at the hospital are from nine to five in winter and from eight to six, with a two-hours' interval for luncheon, in summer. Now, however, on active service the longer hours are kept, without even the two-hours' interval; and, however little work there may be to do, every officer is bound to be at the hospital during those ten hours every day. Much time of course is spent in the common room; but there can be no doubt that the regulation induces many officers to find work to do—pathological, statistical, literary—that otherwise would not be done.

As to the sanitation of the place there is little to say. The buildings being of wood, as is customary in Japan, where earthquakes are frequent, must be considerably in danger of fire and the supply of buckets and hose seemed short of the requirements although there are hydrants in various parts of the grounds close to the wards. The hospital shares a special water-supply of good quality from a catchment area and reservoir four miles off. The gutters and sewers drain into the sea, each ward being fitted with an annexe for lavatory and latrine. The latrines are on the wretched principle still universally maintained in Japan, with fixed open bowls, practically open cesspools, of earthenware some three feet below the platform on which the Japanese squats to empty his rectum, and from these open cesspools, the effluvia of which rise close by the constantly open windows of the wards, the contents are raked and ladled out every other day and carried away in more or less smell-tight covered wooden buckets to be used as manure by the peasant-farmer. The end is so excellent as to compel regret for the unnecessary retention of inferior, insanitary, and unpleasant means to attain it. It is unfair to saddle the pail system with the drawbacks which undoubtedly attach themselves to it in Japan.

THE SIXTH INTERNATIONAL CONGRESS OF PHYSIOLOGISTS.

(FROM A SPECIAL CORRESPONDENT.)

THIS Congress was held at Brussels from August 30th to Sept. 3rd and was attended by nearly 200 workers in physiology from near and far.

Professor PAUL HEGER presided and welcomed the large assemblage in the Institute of Sociology which is situated in the Parc Léopold together with numerous other Institutes, such as that of Physiology, Anatomy, Pathology, and Bacteriology, and that of Commerce, while near by is the great Natural History Museum. The sittings took place in three sections which met in the physiological laboratory and in the Institute of Commerce—buildings which adjoin and which were admirably adapted for their purpose. Each lecture room was provided with projection apparatus. In the physiological department proper every facility was afforded for experiments of all kinds. Near by there was an excellent exhibition of physiological apparatus. The Physiological Institute, the Institute of Sociology, and the Institute of Commerce were erected and are maintained by M. Ernest Solvay, the well-known chemist.

To every member of the Congress was given a souvenir in the form of a bronze medal struck to commemorate the visit of the Congress and in honour of Vesalius. Town and gown seemed to vie with each other in their hospitality and provision for the comfort of the "congressists"—indeed, tramcars were free from the Place Royale to the Parc and *en route* the statue of Quetelet was passed, whose name, perhaps, was more familiar to an earlier race of anatomists. Near by in a quiet garden is the torso of the famous Belgian chemist, Stas. I wonder how many of the "congressists" visited either.

It cannot be said that the meeting was marked by the announcement of any great new fact or discovery. The excellence of the papers was, however, of a high and varied order so far as could be judged from the titles, for as three sections met simultaneously it was impossible to be like Sir Boyle Roche's bird and therefore I must content myself with reference to a few of the communications that have a special interest for medical men.

"*Embarras de richesses*" in every form was the trouble. In trying to select and to present some of the good things communicated to the Congress I may mention that "*place aux dames*" was well observed, for the first paper read was by Miss IDA HYDE (Lawrence, U.S.A.) on the Difference of Electrical Potential in Developing Eggs. Miss Hyde stated that she believed that the definite interactions of electrolytes and colloids occurring throughout the life-history of developing eggs were accompanied by differences of electrical potential. Turtles' eggs on maturing showed that there was a difference of electrical potential between the blastodisc and the opposite pole of the egg. It was a wise resolution of the committee of selection to begin *ab ovo*.

Mdlle. V. KIPIANI (Brussels) described experiments made by her showing the influence on "ergographic" work of sugar taken during *fasting*. The total of mechanical work was thereby considerably increased and the ergogram itself showed a change of form with 25 grammes of cane sugar or glucose. Sugar being a muscle food it spared the proteids and the toxins were thereby diminished; the muscular tissue was affected less injuriously. Moreover, the cerebral excitation which accompanied fasting was diminished by taking sugar.

It is well known that the intravenous injection of different sugars causes polyuria, vaso-dilatation, and rise of arterial pressure, and the question arises, What is the cause of the polyuria? M. LAMY and M. ANDRE MAYER (Paris) found that it was not due to the vascular changes, because in chloralised animals these vascular changes might be absent without affecting the polyuria. There was no constant relation between the vascular changes, the dilatation of the vessels of the kidney, and the polyuria. Nor was it due to the physical condition of the blood, for its changes were not in accord with the activity of the diuresis. The extent of the polyuria was generally proportionate to the quantity of sugar contained in the blood at a given moment. All this showed that the kidney was not a mere filter but a true gland and that the various sugars caused polyuria in virtue of a specific action on the gland. The following was the order of their diuretic activity in diminishing degree: lactose, saccharose, maltose, and glucose and this order was exactly the reverse of that assumed by Dastre and Bourquelot in classifying these sugars as to the coefficient of utilisation by the organism, so that, if this be so, the diuretic power of the sugars was in inverse ratio to their presence in the organism.

Mr. J. BARCROFT and Dr. T. G. BRODIE found that during diuresis excited by the injection of urea or a saline diuretic into the blood-vessels of a dog the gaseous metabolism of the kidney was accompanied by an increased consumption of oxygen with no corresponding excretion of carbon dioxide.

There were many papers on general physiology, including several on botanical subjects; narcosis of ciliated epithelium covering the foot cyclas cornea. During narcosis the epithelial cells do not use up any oxygen from the surrounding medium; they use up their own reserves of oxygen (M. H. NAGAI of Tokio). Conforming to the desire of M. Solvay to obtain data regarding the rate of growth of individuals and of different species of animals and plants, several workers in Brussels (e.g., M. C. HENRY and M. L. BASTIAN) have devoted much time to the study of the law of growth in man and growth in general. The curves of growth are always hyperbolas. Mdlle. STEPANOWSKA has studied the increase in weight during growth and finds that this curve follows the same course. The Effects produced on Dogs by Injecting Substances obtained from Sea-anemones was the subject of a specially interesting part by Professor C. RICHET of Paris. The fluorescent liquid extract of sea anemones excites great intestinal congestion, vomiting, diarrhœa, and

causes death. Another substance present in the extract causes intense irritation of the skin and mucous membranes.

Professor J. N. LANGLEY (Cambridge) communicated, on behalf of himself and his colleague Dr. H. K. ANDERSON, two papers, one on the Auto-regeneration of Nerve Fibres and the other on the Union of Different Kinds of Nerve Fibres. These observers supported the view of the outgrowth of nerve fibres from the centre in opposition to the theory of Bethe and others that after division of nerve fibres new fibres are developed *in situ* without any connexion with the central nervous system. As both of the papers by Professor Langley and Dr. Anderson are published in the *Journal of Physiology*, vol. XXXI., No. 5, 1904, it need only be said that the experiments supported the view of the "outgrowth" of axis-cylinders from the central nervous system.

Dr. ALBRECHT BETHE (Strasburg) gave an admirable paper on Auto-regeneration of Nerves which led to a lively and profitable discussion.

The Influence of Nerves on Organs was discussed by several speakers. M. R. NIKOLAIDES (Athens) contributed two papers, one on the Upper Paths which act on the Respiratory Centre and another on the Fibres of the Vagus that act on the Respiratory Centre; while Dr. J. G. OCANA (Madrid) dealt with the Rôle of the Vagus in regard to the Relation of the Heart and Arterial Blood Pressure.

Under this category may be placed the paper of Professor KRONECKER (Berne) and Professor SPALLITTA (Palermo) who raised anew the old question, When the action of the heart is arrested by stimulation of the vagus, is the influence causing the arrest in the several parts of the heart propagated by the nerves or by the muscular tissue of the heart? They concluded that the conduction was through nervous and not through muscular channels.

Dealing with the subject of Vagotomy, Professor A. STEFANI (Padua) found that section of the vagi in frogs was followed by a great diminution of the hepatic glycogen and a considerable increase of the internal respiration as determined by the excretion of carbon dioxide. Did the vagi regulate these exchanges in the sense of being inhibitory? In vagotomised frogs kept at a low temperature fatty degeneration of the heart was evident after a month and in three months it was well marked, thus confirming the observations of Eichhorst that the vagi have a trophic action on cardiac muscle.

Professor C. S. SHERRINGTON (Liverpool) described the well-known results which he has obtained through his investigation on the "scratch reflex" in the dog.

Dr. G. PAGANO (Palermo), by injecting deeply into the cerebellum a 1 per cent. solution of curare and by removal of its different parts, had arrived at the conclusion that there was a certain amount of motor localisation in connexion with this organ, though the localisation was not in the cortex but was deep seated.

M. A. KOULIABKO (Tomsk), well known for his researches on the resuscitation of the excised hearts of animals and children long after death by perfusion of Locke's fluid, narrated one case where the heart of a very young human fœtus was excised three days after death and parts of it resumed their beating when Locke's fluid was perfused. In general it appeared that these fœtal hearts, so far as function was concerned, resembled those of cold-blooded animals. The sinus venosus and the venæ cavæ of the tortoise emys Europaea showed two kinds of automatic movements, rapid systolic contractions and also slow tonic oscillations—rather than sharp contractions—the former being due to the presence of striped muscle fibres and the latter to smooth muscle fibres.

M. F. BOTTAZZI (Genoa) found that the parts of the venæ cavæ farthest from the sinus possessed only smooth muscle and exhibited only slow movements which resembled perfectly the "oscillations of tonus" of the auricle. The striated fibres were very rich in sarcoplasm. Stimulation of the vagus in the neck caused arrest of the systolic movements and enormous augmentation of tonus, while stimulation of the sympathetic fibres going to the heart caused an opposite effect.

Professor E. A. SCHÄFER (Edinburgh), by an ingenious method, was able to show that the coronary vessels of the heart (i.e., their muscular tissue) were devoid of the terminal vaso-constrictor apparatus and also of vaso-dilator fibres, so that these vessels were independent of the vaso-motor nervous system.

The study of the action and dosage of chloroform was well represented by the work of Dr. WALLER (London) and Professor C. S. SHERRINGTON (Liverpool). The results obtained by them and Miss Sowton of Liverpool have already appeared in THE LANCET.

The osmotic pressure of the liver cells has been determined by M. J. DEMOOR (Brussels) as equal to a solution of chloride of sodium 0·9 per cent. strength. The liver of a dog was excised and the vena cava and hepatic artery were ligatured; cannulæ were tied in the portal and hepatic veins and the liver was suspended in a plethysmograph filled with liquid vaseline. Through the liver were perfused solutions of chloride of sodium of strength 1·2 per cent., 1·1 per cent., 0·9 per cent., 0·8 per cent., to 0·5 per cent. and the variations of the volume of the organ were recorded as each solution was perfused. The chloride of sodium solution of strengths from 1 to 1·2 per cent. diminished, while those of strength from 0·8 to 0·6 per cent. augmented, the volume of the liver. The variations were rapid, could be made successively many times, and were due to the amount of water in the hepatic cells. With a solution of 0·9 per cent. strength there was no change in the volume of the organ.

M. ZUNTZ and M. MAYER (Brussels) found that ligature of the pancreatic ducts in dogs was never followed by glycosuria, in spite of the atrophy of the organ, but if after a month the atrophied gland was excised, glycosuria occurred and caused the death of the animal, but the appearance of the glycosuria was delayed for two or three days, while it appeared at once after complete removal of the pancreas in normal dogs. Dogs with ducts tied and the pancreas atrophied were still "*bien portants*" six months after the operation The atrophy resulting in sclerosis and disappearance of the gland acini, however, did not extend to the islands of Langerhans—a feature of great significance as perhaps indicating the factor concerned in connexion with the "internal secretion" of this organ.

What is the use of the omentum or epiploon? M. FERNAND HEGER (Brussels) exhibited a striking series of preparations to show its function. When aseptic injections containing soot or cinnabar were injected into the peritoneal cavity after from 12 to 24 hours, the coloured powder was collected in the gastro-hepatic omentum. The epiploon was therefore the "balayeur" or "sweeper" of the peritoneal cavity.

The activity of the thyroid and parathyroids seems to be linked intimately with the presence of iodine in a physiological combination which is necessary to the economy. This function is also fulfilled by bromine. In animals deprived of their thyroid and parathyroids M. C. CORONEDI (Sassari) found that if they were fed on certain artificial haloid-fatty acid compounds, specially fats containing diodostearic or dibromostearic acid, they were rendered absolutely immune from the effects that follow complete removal of these glands.

Professor H. MEYER (Marburg) has been able to prepare synthetically substances having the constitution and properties of adrenalin.

Dr. J. J. GALBRAITH (Ardelve) and Dr. SUTHERLAND SIMPSON (Edinburgh) had studied the diurnal variations of temperature and found that amongst mammals the monkey showed the greatest diurnal variation and the guinea-pig the smallest. In all cases the maximum temperature recorded was during the day, or period of activity, and the minimum at night, except in the owl, a nocturnal bird, which had its maximum temperature during the night. By practically reversing day and night, in monkeys a reversal of the temperature curve was obtained.

Strange to say, there were very few communications dealing with the physiology of the sense organs. The Congress will meet three years hence in Heidelberg when Professor Kossel will preside.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Cremation in Manchester.

AT a meeting on Sept. 24th of municipal and county engineers in Manchester, or, rather, in Withington, which is on the eve of becoming a part of Manchester, Mr. J. Harvey Simpson, secretary of the Manchester Crematorium, read a paper on Cremation. He said that it was forced on the community at large (1) by the increase of towns and populous

places, and (2) by the dangers to the public health from burial-places. The objection that it was a continuation of a pagan custom was met by the statement that no objection to cremation was raised in the Scriptures and that there was no annihilation, only a change of condition as to the constituents of the body, as there was after ordinary interment. The prediction that the number of the cases of poisoning would greatly increase had not come to pass and, moreover, this danger is guarded against by the Cremation Act of 1902. Either the subject did not greatly interest the members or cremation had, in their opinion, obtained an impregnable position, for the paper was not followed by much discussion.

New Sewage Works at Chorlton-cum-Hardy.

Withington's new sewage works at Chorlton-cum-Hardy were formally opened on Sept. 21st. The Chorlton works are part of a large system of sewage disposal which the council was obliged to undertake some years ago at an estimated cost of £165,000. At first land filtration was thought of but objected to and an experimental tank for bacterial treatment was constructed with the result that the system of bacterial treatment was decided on. The capacity of the works will allow of the treatment of the sewage of the large district of the Withington council to the satisfaction of the Mersey and Irwell joint committee. The work is expected to be completed for a little over £164,000—a rare instance of the cost not exceeding the estimate.

Anthrax in Cheshire.

Anthrax has become a serious scourge in Cheshire. Four sheep died suddenly on a farm at Sutton and Mr. Ferguson, veterinary surgeon, Warrington, certified that death was due to anthrax. The carcasses were burnt and the farm premises were "thoroughly disinfected." It is rarely that sheep are attacked by this disease.

The Drought.

The people of Manchester, no less than the members of the waterworks committee of the city council, have for some time feared that the supply of water to the city would have to be curtailed in consequence of the continuance of dry weather. The rate of consumption for some time has been at 35,000,000 gallons daily and a week ago the Longendale reservoirs only had a supply for 37 days, while yesterday it had sunk to enough for 31 days only. On Sunday night both in Manchester and Salford it was turned off at 7 o'clock until 6 o'clock on Monday morning, with the estimated saving of 6,000,000 gallons. Exceptions to the turning-off regulation are allowed in the case of the infirmaries and hospitals and precautions are taken to provide for the requirements of the Fire Brigade if fires should break out. This restriction of water has not been needed since July three years ago, when it had to be continued for four months right up to November. In that year the supply in the reservoirs fell to sufficient for 18 days only. This year the drought has come later and may not last so long.

Sept. 27th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Colour Blindness among Swansea School Children.

THE Swansea school board has only just been dissolved, the last meeting of the board having been held on Sept. 23rd. In the administrative work of this body there is no part upon which the members can look back with greater satisfaction than that which has been carried out by its medical officer (Dr. Rhys Davies) who has recently issued a report giving the results of his examination of the colour vision of some of the boys and girls in the higher standards of the public elementary schools within the borough. Of the boys examined 3·8 per cent. were found to be colour blind but in none of the girls was the defect apparent. In 1901, when 1500 boys from 30 different schools were examined, colour blindness was detected in 5·4 per cent. Dr. Davies points out that colour blindness is almost invariably a congenital defect and not therefore a sign of neglect on the part either of parents or of teachers nor is it an indication of dulness on the part of the child. He states that in more than one school he found several boys who had been taught painting for several years, though they were unable to distinguish red from green. The conclusion arrived at from this extended examination of school children is in accordance with Dr. Davies's previously expressed opinion that in every class of 50 boys there are probably two or three who are colour blind, five or six who are defective in acuteness of vision, and seven or eight who are more or less deaf.[1]

The Housing Problem in South Wales and Monmouthshire.

The inadequate housing accommodation in the colliery districts of South Wales and Monmouthshire has already been commented upon in THE LANCET[2] and details have been given of the steps which have been taken by some sanitary authorities to lessen the overcrowding of houses within their districts. On Sept. 24th there was held at Merthyr Tydvil an important conference of nearly 300 members of trade unions and other labour organisations in South Wales and Monmouthshire when a discussion took place as to the best method of dealing with the housing problem. Mr. Keir Hardie, M.P., presided over the meeting and in the course of his remarks he condemned the building of houses by a sanitary authority for the very poor; he maintained that the class to be catered for was the well-to-do and well-paid workman when the class below them would take a step up and so on. The most practical suggestion made to the conference was that of Mr. D. J. Thomas, the medical officer of health of Merthyr Tydvil, who considered that if the lodger difficulty could be successfully dealt with a very great step would be gained and he advocated the establishment of municipal lodging-houses. There is no doubt that in many places these houses would be a great boon and as they could easily be made to pay their way in the districts where single colliers are earning good wages no subsidy from the local rates would be required. The practical outcome of the meeting was a formal protest against the bad housing conditions prevailing generally in industrial and rural districts. It was also decided to form local committees which should impress upon sanitary authorities the necessity and urgency for making the fullest use of their existing powers not only for the abatement of nuisances and the destruction of insanitary property but also for the erection of comfortable houses for all those who are at present without them. It was further resolved to represent to the Government the necessity for granting more extended powers to sanitary authorities for these purposes.

Glamorgan County Asylum.

When the Glamorgan County Asylum was established at Bridgend in the year 1864 it was intended to serve not only the administrative county but also the municipal boroughs of Cardiff and Swansea. The asylum was controlled by a joint committee representing these three areas until 1899 when the Cardiff corporation withdrew from the partnership and took steps to provide a separate asylum. This institution is now in course of erection. Some months ago the Glamorgan county council gave notice to the Swansea corporation of its desire to be relieved from the obligation to receive patients from that borough and from Sept. 29th the Bridgend Asylum will be administered entirely by the county council, although the Swansea corporation may if it desires send in patients during the next five years at a fixed rate of payment. The amount which the county council has to pay to the Swansea corporation upon the termination of the joint control was settled by arbitration and the corporation is to receive £44,200, but it has to contribute a proportion of the pensions now being paid as well as those which are due to the present officials.

Small-pox in Caerphilly.

South Wales has been remarkably free from outbreaks of small-pox during the present year, only a few isolated cases having occurred in localities distant from each other. During the second week in September a navvy who was tramping through Caerphilly—a colliery district in Glamorganshire—was found to be suffering from the disease and he was isolated in the district council's hospital. Eight days later two more cases were reported and the patients were removed to the hospital.

Isolation Hospital for Falmouth and Truro Port Sanitary Authority.

The Falmouth corporation and Falmouth and Truro port

[1] THE LANCET, Nov. 30th, 1901, p. 1537.
[2] THE LANCET, July 30th, 1904, p. 331.

sanitary authority on Sept. 23rd decided to erect an isolation hospital at Budock.

Infantile Mortality in Glamorganshire.

At the last meeting of the Swansea corporation attention was drawn to the high rate of infantile mortality which prevailed in the borough. In 1903 and in the previous ten years this rate was equal to 164 per 1000 births and in the ten weeks ending Sept. 10th last the rate was equal to 207 per 1000 births. The medical officer of health (Mr. Ebenezer Davies) stated that the high temperature which had prevailed during the summer had tripled the number of deaths from diarrhœa among young children but he was also very emphatic in attributing a proportion of the high mortality to the improper feeding of infants upon artificial foods. Mr. J. A. Rawlings, M.R.C.P.Edin., who is a member of the corporation, said that they could not give too much attention to this grave and serious question and he thought that what was wanted was a more complete inspection of the sources of the milk-supply, the cowsheds, and milking places in the rural districts. In his annual report for 1900 the county medical officer of health of Glamorgan (Dr. W. Williams) stated that the inspection of these premises in most districts in the county was carried out in a very lax manner, and when referring to the same subject in his report for 1903 he expressed the opinion that county councils should be endowed with the power to enforce uniformity of control over such an important article of food as milk. The medical officer of health of the Llantrisant rural district (Dr. W. Naunton Davies) in his last annual report describes the conditions which he has observed in some cowsheds where the hands of the milkers are for the most part inadequately washed, their nails being long and affording quarters for any amount of objectionable material. Even, he says, if the milkers exercise all possible care with their hands it is extremely difficult to prevent polluting the milk with some amount of manure which is practically smeared over everything in the place. Another medical officer of health (Dr. W. W. Jones) states that the conditions of the dairies and cowsheds in the Gelligaer rural district in most instances fall short of the requirements of the regulations made under the Dairies, Cowsheds, and Milkshops Orders. It would appear, therefore, that Mr. Rawlings's adverse criticism upon the state of the cowsheds in the county is quite justified.

Sept. 27th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

The Irish Medical Association.

THE council of the Irish Medical Association has sent a letter bringing under the notice of those who are engaged in the teaching of medical students the present condition of the Irish Poor-law medical service. It is shown that the average salary per annum in this service is under £100, out of which all expenses necessary to the discharge of his public duties (rent, taxes, horse and vehicle, servants, &c.) must be paid, leaving practically nothing for his own support. He must attend on every ticket issued on behalf of any "poor person" and this elastic term "poor person" has been so extended as to embrace almost everybody. There is no promotion in the service, no hope of future advancement, no holidays as of right, no increment of salary, and no certainty of a retiring pension. To redress these evils the Irish Medical Association calls on all teachers to explain to students and diplomates the grave mistake they would make in bartering their services for such wretched pittances, the acceptance of which involves the honour and dignity of the whole profession. The association hopes that each member of the profession will recognise that the acceptance of a less sum than £200 a year for dispensary duty, £120 for workhouse, or £300 for both combined, would not only tend to lower their professional status in the eyes of the public but would prolong indefinitely a state of things which is admitted to be a public scandal.

Ulster Medical Society.

At a meeting of the members of the Ulster Medical Society held in the Medical Institute, Belfast, on Sept. 22nd, Dr. W. Calwell was unanimously elected president for the next two years, in the place of Professor J. Lorrain Smith, who owing to his going to Manchester has been obliged to resign.

The Constabulary Medical Officers.

Dr. B. O'Brien has been appointed medical officer of the district in Belfast rendered vacant through the resignation of Dr. W. B. McQuitty.

Royal Victoria Hospital, Belfast.

A Belfast gentleman, much interested in the Royal Victoria Hospital, has written to the local press pointing out a fact observed by those living in it that there are practically no flies in the Royal Victoria Hospital wards, a circumstance which is a great boon to patients, especially in a season like the present, when there is an abnormal number of flies in existence.

Sept. 27th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Sanitation in Post Offices.

THE Under Secretary of State for Post Offices and Telegraphs has just issued to the departmental directors a circular to be transmitted to all chief post-masters of France requesting them to inquire into the general condition of all the post-office premises in their department and to inform their sub-postmasters that those who fail to keep their offices in good order will be liable to have their promotion delayed. In an additional circular the Under Secretary of State describes the methods to be followed by post-masters with respect to the sanitation of their offices. For the daily cleaning of the various rooms dry sweeping and sprinkling with water are strictly forbidden. Of the rooms having tiled floors some are to have the floors flushed with water every day; others are to have the floors flushed with water twice a week and washed with wet cloths daily. Parquet floors are every day to be wiped over with hot turpentine, sprinked with damp sand, and swept. Once a week floors, whether tiled or parquet, are to be sprinkled with a solution of lysol of 2 per cent. strength. The cleaning of the front of the premises, the windows, and the woodwork will continue to be done by contractors. Tables, desks, and telephone apparatus are to be wiped with cloths dipped in a solution of lysol of 2 per cent. strength. Water-closets and urinals are to be kept perfectly clean by frequent flushing and, if necessary, by sprinkling with turpentine. Placing spittoons in the rooms is strictly forbidden and those which are already in use are to be removed immediately. The washing, cleaning, and sweeping are to be done by the caretakers under the control of the post-masters who will supply the requisite antiseptic solutions, sponges, swabs, brooms, and brushes. The rooms are to be ventilated as freely as possible, especially in the absence of the staff.

Prevention of Tuberculosis in Barracks.

On all sides attention is being given to hygienic measures, especially in the army where it is so important to maintain a high standard of general health. Tuberculosis is the disease which is most to be feared and the course which has been taken with regard to it in the garrison of Grenoble might be advantageously adopted everywhere. In this garrison the medical officers have arranged that when a man is observed to be out of health he shall be weighed at intervals and if his weight is stationary or diminishing a physical examination of him is made, especially of his lungs. His temperature is taken several times a day for some days even although nothing abnormal has been found. If he is out of health and his weight is stationary, but his temperature is normal, he is kept under observation and is not put on exhausting duty. If he is out of health with loss of weight but no rise of temperature he is placed on the sick list. If he is out of health and losing weight with a daily rise of temperature but no physical signs of internal disease, especially in the lungs, he is placed on the sick list for three months. If he is out of health and losing weight with a daily rise of temperature and suspicious pulmonary symptoms he is given a temporary discharge. If he is out of health and losing weight with a daily rise of temperature and affected lungs, whether there are bacilli in the sputum or not, he is discharged ("réforme No. 2"). On this system an improvement may reasonably be expected by sending the men home. A man is never sent home in these circumstances without having had fully explained to him the apprehensions which have led to his being placed on the sick list

and also the hygienic precautions which he ought to take. This system has, moreover, the advantage of not making any demands on the Treasury.

Congress on the Housing Question.

The first International Congress on the Housing Question (Congrès d'Assainissement et de Salubrité de l'Habitation) organised by the Hygienic Society of France will meet in Paris from Nov. 1st to 8th. Nov. 1st and 2nd will be devoted to preliminary meetings; the formal inaugural meeting will take place on Nov. 3rd. Hygienists intending to be present should apply to the general secretary, M. Marié-Davy, 7, Rue Brézin, Paris.

Sept. 27th.

Obituary.

EDMUND CARVER, M.A., M.D. CANTAB., F.R.C.S. ENG.

Dr. Edmund Carver, formerly demonstrator of anatomy at the University of Cambridge Medical School, died on Sept. 7th at Torquay at the age of 80 years. His medical education was obtained at University College, London, and he was admitted M.R.C.S. Eng. in 1848, receiving the Fellowship in 1854. He graduated at the University of Cambridge as M.B. in 1859 and M.D. in 1891. He was consulting surgeon to Addenbrooke's Hospital, a Fellow of the Cambridge Philosophical Society, and also a former president of the Cambridge Medical Society. He was a retired surgeon-major of the Cambridge University Rifle Volunteers. Dr. Carver had also been house surgeon at University College Hospital, resident clinical assistant at the Brompton Hospital for Consumption, surgeon to the Huntingdon County Hospital, and surgeon to the Hunts Rifle Regiment (Militia).

GEORGE CROKER, M.D. GLASG., F.R.C.S. IREL.

WE regret to announce the death of one of the oldest medical practitioners of Ulster, Dr. George Croker, who died at his residence, Mount Pottinger, Belfast, on Sept. 22nd, at the advanced age of 90 years. Dr. Croker was born in Beaufield House, co. Wicklow, and studied at Glasgow, where he graduated M.D. in 1840 and four years later he became a Fellow of the Royal College of Surgeons in Ireland. For a time he practised in the south of Ireland but afterwards he was appointed family physician to the present Marquis of Downshire's grandfather and became resident physician at his summer residence at Dundrum, co. Down. Later he resided in Hillsborough, the principal residence of Lord Downshire, and was appointed surgeon to the Royal South Down Rifles, but on the removal of the headquarters to Downpatrick he retired from the regiment and took up residence in Ballyhackamore, near Belfast, and acted as dispensary medical officer of No. 1 Castlereagh district. When Dr. James Hill of Mount Pottinger resigned he succeeded him as dispensary medical officer of that locality and he continued to hold this appointment until his resignation six years ago. His wife predeceased him but he leaves two sons and two daughters; one of his other sons, Dr. E. Croker, died when a most promising house physician of the Royal Victoria Hospital some years ago from intestinal obstruction. Dr. Croker was greatly respected and had at one time a large practice.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Costa Simoës, professor of physiology in Coimbra.—Dr. Otto Rembold, formerly professor of clinical medicine in Gratz.—Count John Magawly, formerly director and chief surgeon of the St. Petersburg Ophthalmic Hospital.—Dr. V. N. Reitz, Privy Councillor and director and chief medical officer of the Elizabetinsk Children's Hospital, died at Peterhoff on Sept. 10th, aged 66 years. His career was distinguished. He was the author of many medical works, some of which were published in German, says the *Novosti*, when he was travelling abroad for scientific investigation by order of the Russian Government.

Medical News.

UNIVERSITY OF DURHAM.—At the examinations for the degree of Bachelor in Medicine held in September the following candidates satisfied the examiners:—

FIRST EXAMINATION.

Elementary Anatomy and Biology, Chemistry, and Physics.—First-class Honours: Charles Frederick Morris Saint, College of Medicine, Newcastle-upon-Tyne. Second-class Honours: Henry Glendinning Davison, College of Medicine, Newcastle-upon-Tyne. Pass List: Norman St. Clair Bruce Cummins, College of Medicine, Newcastle-upon-Tyne; Percy Hall, St. Bartholomew's Hospital; Isaiah Hodgkinson, Anderson's College, Glasgow, and College of Medicine, Newcastle-upon-Tyne; Herbert Richard McAleenan, College of Medicine, Newcastle-upon-Tyne; Satyen Mozumder, St. Bartholomew's Hospital; and Jack Dixon Turnbull, College of Medicine, Newcastle-upon-Tyne.

Chemistry and Physics.—Kenneth Bruce Allan and Leonard Foster Browne, College of Medicine, Newcastle-upon-Tyne; Leslie Wilson Evans, Guy's Hospital; Francis Hamley Fawkes, St. Mary's Hospital; Reginald Cyril Herbert Francis, College of Medicine, Newcastle-upon-Tyne; Arthur Charles Greene, Guy's Hospital; Hedvig Christina Kellgren, Annie Viccars Mack, Friederike Rahtkens, and Francis Aidan Robinson, College of Medicine, Newcastle-upon-Tyne; Matilda Ann Sinclair, London School of Medicine for Women; Rev. Robert Henry Smallwood, M.A., Theodore William Stallybrass and Basil Taylor, College of Medicine, Newcastle-upon-Tyne; Arthur Henry Leopold Thomas, St. Mary's Hospital; and Dorothea Mary Tudor, London School of Medicine for Women.

Elementary Anatomy and Biology.—Jacques Marius Louis François Coquelin, University of Paris; Ivor Stanley Gabe, College of Medicine, Newcastle-upon-Tyne; Claude Percival Rivers Harvey, London Hospital; Edward Pierce Llewellyn Hughes, Guy's Hospital; Frank Widowfield Meivin and Charles James Neilan, College of Medicine, Newcastle-upon-Tyne; Stanley Larmond Randolph, Guy's Hospital; and David Wilson, College of Medicine, Newcastle-upon-Tyne.

SECOND EXAMINATION.

Anatomy, Physiology, and Materia Medica.—First-class Honours: Herbert Max Levinson, College of Medicine, Newcastle-upon-Tyne. Second-class Honours: Edward Percival Hearne Joynt, College of Medicine, Newcastle-upon-Tyne; Charles Gordon Kemp, St. Bartholomew's Hospital; and Roland Wilfred Pearson, M.R.C.S., L.R.C.P., Owens College, Manchester. Pass List: Orrock Arnott and Harold Henry Blake, College of Medicine, Newcastle-upon-Tyne; Frederick William Cheese, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; William Harold Edgar and George Reginald Ellis, College of Medicine, Newcastle-upon-Tyne; John Everidge, King's College, London; and John Ernest Hanna, Herbert Fletcher Joynt, Stanley Dunn Metcalfe, William Rollin, James Wilkie Smith, Leslie Henry Walker, George Walker, and Lionel Langford Westrope, College of Medicine, Newcastle-upon-Tyne.

THIRD EXAMINATION.

Second-class Honours.—Neville Avory Eddlestone and Richard Woodward Swayne, College of Medicine, Newcastle-upon-Tyne.

Pass List.—Vincent Edgar Badcock, College of Medicine, Newcastle-upon-Tyne; Frederick William Cheese, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; John Bowman Cooke and George Denholm, College of Medicine, Newcastle-upon-Tyne; Sampson George Victor Harris, Charing Cross Hospital; Florence Barrie Lambert, London School of Medicine for Women; and Arthur Cecil Hays McCullagh, Frederick Charles Pybus, George Robert Philipson, Norman Spedding, and Thomas Leathard Wormald, College of Medicine, Newcastle-upon-Tyne.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Max Westenhofer has been recognised as *privat-docent* of Pathological Anatomy, Dr. F. Frankenhauser and Dr. L. Michaelis as *privat-docenten* of Internal Medicine, and Dr. Erich Hoffmann as *privat-docent* of Dermatology.—*Bonn:* Dr. Karl Zieler has been recognised as *privat-docent* of Dermatology.—*Breslau:* Dr. Georg Jochmann has been recognised as *privat-docent* of Internal Medicine.—*Florence:* Dr. Giovanni Polverini has been recognised as *privat-docent* of Tropical Diseases.—*Jena:* Dr. K. Franz of Berlin has been appointed to the chair of Midwifery and Gynæcology.—*Kharkoff:* Dr. Martinoff of Moscow has been appointed Extraordinary Professor of External Pathology.—*Munich:* Dr. Alois Alzheimer has been recognised as *privat-docent* of Psychiatry.—*Pisa:* Dr. Alberto Pepere has been recognised as *privat-docent* of Pathological Anatomy and Dr. Rinaldo Casanello as *privat-docent* of External Pathology.—*Rome:* Dr. Vincenzo Montesano has been recognised as *privat-docent* of Dermatology, Dr. Romeo Roselli and Dr. Giulio Valenti as *privat-docenten* of Ophthalmology, and Dr. Adelson Canepele as *privat-docent* of Otology and Laryngology.—*Rostock:* Dr. Hans Henrici has been recognised as *privat-docent* of Otology and Laryngology. Dr. Scheren, *privat-docent* of Mental Diseases, and Dr. Ehrich, chief of the Surgical Clinic under Professor W. Müller, have been promoted to Extraordinary Professorships.—*St. Petersburg (Military Medico-Chirurgical Academy):* Dr. P. Ostankoff has been recognised as *privat-docent* of Neurology and

Psychiatry.—*Stockholm:* Dr. Anders Gustaf Wide, *privat-docent* of Orthopædics, has been granted the title of Professor.—*Strasburg:* Dr. Rudolf v. Krehl of Tübingen has been appointed to succeed Professor Naunyn, who is retiring. —*Tomsk:* Dr. Kouliabko has been appointed Ordinary Professor of Physiology.—*Tübingen:* Dr. Karl Bürker has been promoted to an Extraordinary Professorship of Physiology. Dr. Karl Baisch has been recognised as *privat-docent* of Gynæcology.—*Turin:* Dr. Fernando Michell has been recognised as *privat-docent* of Internal Pathology and Dr. Emilio Perrero as *privat-docent* of Neurology.—*Vienna:* Dr. R. Weiser has been recognised as *privat-docent* of Odontology and Dr. Sorgo as *privat-docent* of Internal Medicine.—*Würzburg:* Dr. August Gürber has been recognised as *privat-docent* of Physiological Chemistry.

SUPERANNUATION ALLOWANCE.—Mr. G. Mitchell, who is 74 years of age and has been for 47 years medical officer of the Gwennap district of the Redruth (Cornwall) board of guardians, having resigned his appointment on Sept. 23rd has been granted a superannuation allowance.

MEDICAL EDUCATION OF WOMEN IN RUSSIA.—The *Novoe Vremya* says that the number of applicants for admission to the Women's Medical Institute increases every year. This year the applicants numbered 950, of whom 250 were accepted.

ST. BARTHOLOMEW'S HOSPITAL.—The following are the results of the recent examinations:—Senior entrance scholarships in science value £75 each, E. P. Cumberbatch and G. Graham; junior entrance scholarship in science, value £150, T. S. Lukis; preliminary scientific exhibition, value £50, G. Rigby Lynn; and Jeaffreson exhibition, value £20, K. C. Bomford.

LONDON HOSPITAL MEDICAL COLLEGE.—The following entrance scholarships have been awarded: Science: "Price" scholarship, £120, A. H. Penistan; second, £60 scholarship, C. Ilderton Wright; third, £35 scholarship, Ronald Candy; honorary certificate, E. B. Morley. "Price" scholarship in anatomy and physiology, £60, R. B. Lloyd, Emmanuel College, Cambridge. Epsom scholarship, £120, J. P. Little.

A SOLDIER'S INTOLERANCE OF MEAT.—The *Russian Military Medical Journal* quotes the case of a soldier, 22 years of age, who suffered from an absolute repugnance to meat, after eating which he infallibly complained of urticaria all over the body, general indisposition, and such intense weakness that he had to take to bed. He could not tolerate meat soup or flesh in any form whatever, lean or fat, boiled or roasted—not even mutton or veal, but he could eat fowl.

THE INTERNATIONAL ELECTRICAL CONGRESS IN ST. LOUIS.—The International Electrical Congress in St. Louis, U.S.A., was opened on Sept. 12th. The business was arranged in seven sections, as follows: A, general theory, mathematical, experimental; B, general applications; C, electro-chemistry; D, electric power transmission; E, electric light and distribution; F, electric transportation; G, electric communication; and H, electro-therapeutics. The New York *Electrical Review* publishes a full list of all the subjects, those comprised under Section H, or Electro-therapeutics, being as follows:—A Contribution to the Radio-diagnostics of Diseases of the Head and of the Brain, by Professor Dr. M. Benedikt; Some Improvements in Generator Apparatus of High-frequency Currents, by Dr. G. O'Farrill; Physico-therapy of Neurasthenia, by Dr. J. Rivière; The Ionic Theory as Biological Basis for the Therapeutic Action of Electricity, by Professor S. Schatzky; Recent Advances in Roentgen Ray Science, by Dr. Carl Beck; Diagnosis of Calculi by X Rays, by Dr. Russell H. Boggs; Radiation in Therapeutics, by Dr. Gordon G. Burdick; The Nature of the Changes established in Living Tissues by the Action of Oxidisable Metals at the Anode, by Dr. Margaret A. Cleaves; Some Observations upon the Treatment of Lupus Vulgaris by Phototherapy, Radiotherapy, and otherwise, by Dr. Charles R. Dickson; X Rays and Radio-active Substances as Therapeutic Agents, by Dr. Emil H. Grubbé; The Principles of Electro-therapeutics, by Dr. T. Proctor Hall; Electro-therapeutics, by Dr. J. H. Kellogg; Control of Life Phenomena by Electrolytes, by Professor Jacques Loeb; Cataphoric Diffusion of Metallic Ions in the Destructive Sterilisation of Cancer and Tuberculosis Deposits, by Dr. G. Betton Massey; Artificial Fluorescence of the Human Organism as a means of Treating Disease, by Dr. W. J. Morton; Static Electricity in Chronic Nephritis, by Dr. C. L. Nelswanger; a Large Fibro-sarcoma treated by X Radiance, by Dr. Clarence E. Skinner; and Therapeutic Uses of Static Electricity, by Dr. William Benham Snow.

VACCINATION GRANT.—Mr. W. Herbert Gregory, M.D. Edin., has again received the grant for successful vaccination in the No. 2 district of the Beverley Union, Yorks.

KHARKOFF HOSPITAL FOR INCURABLES.—On Sept. 4th the foundation stone of the long meditated hospital for incurables was laid in Kharkoff in memory of Dr. Frankovsko.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—By the courtesy of Dr. T. S. Sheldon the next meeting of the Northern and Midland division of this association is to be held at the Cheshire County Asylum, Parkside, Macclesfield, on Thursday, Oct. 13th at 2.30 P.M. Dr. Sheldon has invited members to lunch on the day of the meeting and it is proposed that members should dine together afterwards at the Midland Hotel, Manchester.

ST. MARY'S HOSPITAL MEDICAL SCHOOL.—At the examination for entrance scholarships held on Sept. 20th and 21st the following awards were made: Open scholarship of £145: W. L. Cowardin, St. Paul's School. Open scholarships of 50 guineas each: E. W. Archer, St. Mary's Hospital; A. B. Porteous, City of London School; and T. A. F. Tyrrell, University College School. University scholarships of 60 guineas: (1) C. H. Rothera, B.A., Emmanuel College, Cambridge; and (2) P. P. Laidlaw, B.A., St. John's College, Cambridge; and K. A. Lees, B.A., King's College, Cambridge (equal). The Epsom College scholarship of £145 has been awarded to T. C. C. Evans on the nomination of the head master.

POISONING BY COAL GAS.—An inquest was held at Brighton on Sept. 24th in regard to two deaths alleged to be the result of poisoning by coal gas. From the evidence it appears that a man and his wife were found unconscious in their bedroom on an entrance being forced into the room by the landlord. The services of a medical man were requisitioned who pronounced life to be extinct in the case of the man, while the wife ultimately succumbed after being removed to the Sussex County Hospital. There was a strong smell of gas in the room and a tap was found partly turned on. The leakage of gas, however, must have been small, since there was a light burning in the same room and some surprise was expressed that there had not been an explosion. Dr. A. Newsholme, the medical officer of health of Brighton, gave evidence and said that on various occasions he had reported to the Brighton town council on the question of the admixture of water gas with coal gas in the public supply of Brighton and had given evidence on the subject before the departmental committee which sat to report on the matter. The departmental committee unanimously recommended that during the night service gas companies should not be allowed to supply gas containing more than 12 per cent., or such greater amount as the central department might consider desirable. On this occasion the amount was 14 per cent. The departmental committee had unanimously said that the danger of poisoning by this mixture was increasing and, naturally, 14 per cent. was much more dangerous than 7 per cent. They had it in evidence that the total amount of coal gas in the room was not large but still it was fatal. In his opinion both the deceased would have had a reasonable chance of surviving had the gas which escaped been only 7 per cent. Medical evidence was given, in which death was attributed in both cases to asphyxia. The jury returned a verdict that the deceased persons died from suffocation caused by an escape of gas, but as there was not sufficient evidence to show how the tap became turned on they returned an open verdict. In view of Dr. Newsholme's important remarks as to the high percentage of carbon monoxide in the coal-gas supply of Brighton we should have thought that some reference to the marked appearance of the blood which characterises cases of carbon monoxide poisoning would have been made at the post-mortem examination.

BOOKS, ETC., RECEIVED.

BALE, JOHN, SONS, AND DANIELSSON, 83, Great Titchfield-street, Oxford-street, W.

Adenoid Growths of the Naso-pharynx: Diagnosis, Symptoms, and Treatment. By G. A. Garry Simpson, M.R.C.S. Eng., Clinical Assistant, Throat, Nose, and Ear Department, West London Hospital. Price 3s. 6d. net.

DAVIS, F. A., COMPANY, 1914–16, Cherry-street, Philadelphia, U.S.A.

Modern Ophthalmology: a Practical Treatise on the Anatomy, Physiology, and Diseases of the Eye. By James Moores Ball, M.D., Professor of Ophthalmology in the St. Louis College of Physicians and Surgeons. Parts I. and II. Price, extra cloth, $7.00 net; half-morocco, $8.50 net.

JOHNSTON, W. AND A. K., LIMITED, Edinburgh and London.

Manual of Gynecology. By D. Berry Hart, M.D., F.R.C.P.E., F.R.S.E., Lecturer on Midwifery and Gynecology, School of the Royal Colleges, Edinburgh, and A. H. Freeland Barbour, M.A., B.Sc., M.D., F.R.C.P.E., F.R.S.E., Lecturer on Midwifery and Diseases of Women, School of the Royal Colleges, Edinburgh. Sixth edition. Price not stated.

KING, P. S., AND SON, Orchard House, Westminster.

Markets, Fairs, and Slaughter-houses. Being a collection of Special Provisions relating to Markets, Fairs, and Slaughter-houses, contained in the Private Acts of Parliament and Provisional Orders obtained by English Provincial Corporations and Urban District Councils in the years 1901, 1902, and 1903. Compiled and arranged by Frank Noel Keen, of the Middle Temple, Barrister-at-Law. Price 3s. 6d. net.

LEWIS, H. K., 136, Gower-street, W.C.

Enlargement of the Prostate, its Treatment and Radical Cure. By C. Mansell Moullin, M.D. Oxon., F.R.C.S., Senior Surgeon and Lecturer on Surgery at the London Hospital. Third edition. Price 6s.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

ADAMS, C. B. D., has been appointed Senior House Physician to St. Bartholomew's Hospital.

ANDERSON, C. A., has been appointed Junior House Physician to St. Bartholomew's Hospital.

BIRKETT, H. J. D., has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

BOWEN, H. W., has been appointed Surgeon to the Royal Ear Hospital, Soho, W.

BOYLE, H. E. G., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Assistant Chloroformist to St. Bartholomew's Hospital.

BREWERTON, E. W., F.R.C.S. Eng., has been appointed Clinical Assistant to the Department for Diseases of the Eye, St. Bartholomew's Hospital.

BURFIELD, J., has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

BURROUGHES, H. N., has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

COCKE, R. STURGEON, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Surgeon to the Royal Ear Hospital, Soho, W.

COLEMAN, F., M.R.C.S., L.D.S., has been appointed Clinical Assistant to the Dental Department, St. Bartholomew's Hospital.

COLT, G. H., has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

CRIPPS, L., has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

CROSS, W. F., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Assistant Chloroformist to St. Bartholomew's Hospital.

CUDMORE, ARTHUR MURRAY, M.B. Adel., F.R.C.S. Eng., has been appointed Surgeon to the Adelaide Hospital, South Australia.

DAMMAN, G. W., M.B., Ch.B. Melb., has been appointed a Member of the Local Board of Health at Penguin, Tasmania.

DAVY, THOMAS GEORGE, M.R.C.S. Eng., L.S.A. Lond., has been appointed District Medical Officer at Perth, West Australia.

ETHERINGTON-SMITH, R. B., B.S. Cantab., has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

FLAVELLE, J. M., M.R.C.S. Eng., has been appointed Clinical Assistant to the Department of Electro-Therapeutics, St. Bartholomew's Hospital.

FULTON, THOMAS KENSINGTON, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Officer of the Immigration Limitation Act, also Medical Officer of the Palmerston Gaol, South Australia.

GASK, G. E., F.R.C.S. Eng., has been appointed Clinical Assistant to the Department of Orthopædics, St. Bartholomew's Hospital.

GOULD, H. A., has been appointed Resident Midwifery Assistant at St. Bartholomew's Hospital.

HADFIELD, C. F., has been appointed Junior House Physician to St. Bartholomew's Hospital.

HAGGARD, T. B. A., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

HARRISON, W. H., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Officer of the Immigration Limitation Act, South Australia.

HARVEY, HENRY F., M.R.C.S. Eng., L.S.A. Lond., has been appointed Acting Principal Medical Officer and Officer Controlling Sea Quarantine, *pro tem.*, West Australia, also a Member of the Board of Management of the Perth Public Hospital, West Australia, *pro tem.*

HEPWORTH, F. A., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Junior House Physician to St. Bartholomew's Hospital.

HOGARTH, A. H., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Assistant Extern Midwifery Assistant at St. Bartholomew's Hospital.

HORDER, T. J., M.D., B.Sc. Lond., M.R.C.P., has been appointed Clinical Assistant to the Department for Diseases of the Skin, St. Bartholomew's Hospital.

HORNE, W. JOBSON, M.D. Cantab., has been appointed Clinical Assistant to the Department for Diseases of the Throat and Nose, St. Bartholomew's Hospital.

HOWELL, C. M. H., M.R.C.S Eng., L.R.C.P. Lond., has been appointed Senior House Physician to St. Bartholomew's Hospital.

HUDSON, B., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Junior House Physician to St. Bartholomew's Hospital.

JOHNSON, W. CROSBY, M.B., Ch.B. Vict., has been appointed Honorary Physician to Pendleton Branch Dispensary of Salford Royal Hospital.

JONES, J. M., M.D. Michigan, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

JOYCE, CALEB, M.B. Melb., has been appointed Public Vaccinator at Kanowna, West Australia.

LAMB, WILLIAM, M.B., C.M. Edin., has been appointed Public Vaccinator at Mannum, South Australia.

LEDWARD, H. D., M.B., B.C. Cantab., has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

MACFADYEN, N., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Assistant Extern Midwifery Assistant at St. Bartholomew's Hospital.

MURISON, A. LOGAN, M.R.C.S., L.R.C.P. Lond., has been appointed Surgeon to the Royal Ear Hospital, Soho, W.

NELIGAN, A. R., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Senior House Physician to St. Bartholomew's Hospital.

NOON, L., B.S. Cantab., has been appointed Ophthalmic House Surgeon to St. Bartholomew's Hospital.

OVERY, HARRY, M.B., Ch.B. Edin., F.R.C.S. Eng., has been appointed Casualty Officer and Pathologist to the Metropolitan Hospital, N.E.

PAYNE, J. E., has been appointed Senior House Physician to St. Bartholomew's Hospital.

PETHYBRIDGE, W. L., M.D., B.Sc. Lond., has been appointed Honorary Physician to the Plymouth Public Dispensary, Honorary Pathologist to the South Devon Hospital, and Ophthalmologist to the Plymouth Education Authority.

PLOWRIGHT, C. T. H., has been appointed Junior House Surgeon to St. Bartholomew's Hospital.

REDAHAN, T., L.R.C.P.I., L.R.C.S.I., has been appointed Certifying Surgeon under the Factory Act for the Mohill District of the county of Leitrim.

ROSE, F. A., M.B. Cantab., F.R.C.S. Eng., has been appointed Clinical Assistant to the Department for Diseases of the Throat and Nose, St. Bartholomew's Hospital.

ROUND, JOHN, L.R.C.P. Lond., L.R.C.S., has been appointed Physicians' Assistant at the Plymouth Public Dispensary.

SCOTT, S. R., M.B., B.Sc. Lond., F.R.C.S. Eng., has been appointed Clinical Assistant to the Department for Diseases of the Ear, St. Bartholomew's Hospital.

STEVENSON, B., L.D.S. Glasg., has been appointed Clinical Assistant to the Dental Department, St. Bartholomew's Hospital.

THOM, A. P., M.B., Ch.M. Aberd., has been appointed Acting Officer of Health at Geraldton, West Australia.

THURSFIELD, H., M.D. Oxon., M.R.C.P., has been appointed Clinical Assistant to the Department for Diseases of the Skin, St. Bartholomew's Hospital.

VINTER, SYDNEY GARRATT, L.R.C.P., M.R.C.S., L.S.A., D.P.H. Durh., has been appointed by the Postmaster-General Medical Officer to the Post Office at Torpoint (including Antony), Devonshire.

WALSHAM, H., M.D. Cantab., F.R.C.P., has been appointed Clinical Assistant to the Department of Electro-Therapeutics, St. Bartholomew's Hospital.

WENHAM, H. V., M.B. Lond., has been appointed Senior House Physician to St. Bartholomew's Hospital.

WEST, C. E., M.B. Oxon., F.R.C.S. Eng., has been appointed Clinical Assistant to the Department for Diseases of the Ear, St. Bartholomew's Hospital.

WHITE, E. H., has been appointed Junior House Physician to St. Bartholomew's Hospital.

WILLIAMSON, H., M.D. Cantab., M.R.C.P. Lond., has been appointed Clinical Assistant to the Department for Diseases of Women, St. Bartholomew's Hospital.

WILSON, H. W., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Senior House Surgeon to St. Bartholomew's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRECON AND RADNOR LUNATIC ASYLUM, Talgarth, Breconshire.—Medical Superintendent. Salary £450 per annum, with house, light, washing, and garden produce.

BRENTWOOD, ESSEX COUNTY ASYLUM.—Assistant Medical Officer. Terms £150 annually, with board and residence.

BRISTOL GENERAL HOSPITAL.—Physician to the Skin Department.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—Junior House Surgeon for six months. Salary £50 per year, with board, apartments, and laundress.

CROYDON GENERAL HOSPITAL.—Junior House Surgeon, unmarried. Salary £60 per annum, with board, laundry, and residence.

DOVER, ROYAL VICTORIA HOSPITAL.—House Surgeon, unmarried. Salary £100 a year, with board, lodging, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £25 per annum, with board and washing.

GORDON HOSPITAL FOR FISTULA, &c., Vauxhall Bridge-road, S.W.—House Surgeon. Honorarium £15 15s. for six months, or £40 for twelve months, with board and residence.

GLASGOW, UNIVERSITY OF.—One Examiner each in Chemistry, Physics, Physiology, Materia Medica and Therapeutics, and Pathology, salary £50 each; Examiner in Chemistry, salary £50 per annum; Examiner in Physics, salary £50 per annum; two Examiners each in Medicine (Systematic and Clinical) and Surgery (Systematic and Clinical), salary £80 each.

HALIFAX (ROYAL) INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

HANLEY COUNTY BOROUGH.—Lady Assistant Medical Officer.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Honorarium of £25.

LEICESTER INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, apartments, and washing.

MANCHESTER CHILDREN'S HOSPITAL.—Junior Physician and Junior Surgeon. Honorarium £50 each.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Anæsthetist. Honorarium 25 guineas per annum.

MICKLEOVER, DERBY COUNTY ASYLUM.—Senior Assistant Medical Officer. Salary £150, rising to £180 per annum, with apartments, board, washing, and attendance.

NEWCASTLE-UPON-TYNE CITY HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Officer. Salary £100 per annum, rising to £150, with board, lodging, &c.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Two Resident Medical Officers. Salaries £80 and £70 per annum respectively, with board, residence, and washing.

NORTHAMPTON GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with apartments, board, attendance, and washing.

PORTSMOUTH, ROYAL HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, &c.

QUEEN'S JUBILEE HOSPITAL, Earl's Court, S.W.—House Surgeon for six months, renewable. Salary at rate of £52 per annum, with board, residence, and washing.

ROYAL DENTAL HOSPITAL, Leicester-square, W.C.—Morning House Anæsthetist. Honorarium £50 per annum.

ROYAL EAR HOSPITAL.—Clinical Assistants.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Assistant Anæsthetist (female) for six months.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician for six months. Salary at rate of £60 per annum, with board, lodging, and washing. Also Resident Medical Officer for six months. Salary at rate of £120 per annum, with apartments, board, and washing.

ST. BARTHOLOMEW'S HOSPITAL.—Surgeon. Also Assistant Physician.

ST. GEORGE'S HOSPITAL, S.W.—Assistant Physician.

ST. GEORGE'S UNION INFIRMARY AND WORKHOUSE, Fulham-road, London, S.W.—Medical Superintendent and Medical Officer. Salary £400 per annum, rising to £500, and fees, with house, coals, light, &c.

SEAMEN'S HOSPITAL SOCIETY, Greenwich, S.E.—Junior Resident Medical Officer, Dreadnought Hospital, Greenwich. Salary £40 per annum, with board, residence, and washing. Also House Surgeon, Branch Hospital, Royal Victoria and Albert Docks, E. Salary £50 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Additional Officer in charge of X-Ray Department.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Physician. Salary £100 per annum, with board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Jarrow, in the county of Durham.

Births, Marriages, and Deaths.

BIRTHS.

BATTERSBY.—On Sept. 22nd, 1904, at South Parade House, Doncaster, the wife of J. H. Battersby, M.D., of a daughter.

MELLERSH.—On Sept. 25th, at Carlyle-square, S.W., the wife of W. Francis Mellersh, L.D.S.R.C.S. Eng., of a son.

WALKER.—At Naivasha, British East Africa, on Sept. 22nd, the wife of Dr. Sydney R. Walker, of a son.

MARRIAGES.

EDMONDS—DAVIS.—On August 31st, at St. Philip's Church, Georgetown, Demerara, Frank Rowe Edmonds, M.R.C.S., L.R.C.P., younger son of F. H. Edmonds, M.R.C.S., L.R.C.P., of Georgetown, Demerara, to Kathleen, eldest daughter of the late A. Percy Davis, M.R.C.S., and Mrs. A. Percy Davis, of Fowey, Cornwall.

STUART—LOWE.—On August 27th, at St. Bartholomew's Church, Snarestone, Warwickshire, Hackworth Stuart, M.D., of Hanley, to Mabel Mary, eldest daughter of Alfred Lowe, Esq., of Snarestone Lodge, Atherstone.

DEATHS.

COUPER.—On Sept. 26th, at Aviennore, Alexandra-road, South Shore, Blackpool, Marion, the beloved daughter of Dr. and Mrs. Sinclair Couper, aged 4 years.

HAMILTON.—On Sept. 28th, at Oakthorpe, Windermere, Archibald Hamilton, M.D., aged 64.

MARTIN.—On Sept. 14th, at Salisbury, Rhodesia, Doveton Arthur William Martin, M.R.C.S., L.R.C.P. Lond., aged 37, District Surgeon, Mwomboshi, N.E. Rhodesia, only surviving and much beloved son of H. A. Martin, M.D., late A.M.D.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

CORONERS' INQUESTS AND MEDICAL EVIDENCE.

To the Editors of THE LANCET.

SIRS,—I shall be grateful for an opinion upon the various points set forth in the following letter. A labourer, aged 51 years, was assisting a fitter with a compressed air machine for punching holes. The machine was so arranged that the fitter held a handle on one side of the machine and the labourer supported the handle on the other side. During the working of punching holes the handles often kicked and the two men were liable to get knocked if they were not very careful. Such injuries were very common but no injury of any importance or even of such severity as to incapacitate a man from continuing to work had previously occurred. In this particular case the machine kicked and struck the labourer in the lower part of the abdomen. He was sent home in a cab and I saw him a few minutes after reaching his home. On examination I found he suffered from pain just above the right inguinal region. This man had suffered for several years from very severe attacks of bronchial asthma and had only recently recovered from an illness lasting over four months, during which time, from the dyspnœa and the œdema extending high up both thighs, he was unable to assume any other position than sitting upright in an armchair. When he returned to work—it was a matter of necessity—he was utterly unfit for even the lightest employment, but through the sympathy of his foreman he was allowed to resume. For some days he complained of pain over the part of the abdomen injured, but owing to the difficulty of properly examining him (the man could not lie down and his best position was sitting or standing) very little could be diagnosed of the effect of the injury in either of these positions. After a few days the pains began to shift and the main trouble seemed to be over the stomach, around the lower margin of the ribs of the left side, and the left shoulder. Poultices appeared to lend more relief than any other form of treatment. The bronchial asthma was so severe as to nearly mask all other symptoms and the patient occupied his time sitting on a stool in the backyard or on the edge of his bed, his bedroom being on the ground floor. His death was very sudden. I visited him about 11.30 A.M. and found him out in the yard; he appeared in much the same state; there was nothing to note of any serious change for the worse. In the afternoon he complained of a sudden severe pain exactly over the spot where he had been struck. He quickly became collapsed and died seven weeks after the accident, though he conversed with his relations until almost the last moment. The coroner arranged for a post-mortem examination to be made the following evening at 8 o'clock. At the inquest the coroner ascertained these few facts: that the deceased had been my patient for several years; that he had suffered from bronchial asthma; that he was unable to lie down; and that I was called to him one evening when he was brought home injured from the works. Dr. X, who had made the post-mortem examination, stated that there was extensive peritonitis over the whole abdomen, with perforation of the small intestine and a large collection of pus. He considered it quite impossible for anyone to have diagnosed the condition of things either in life or death and that the accident caused the death.

I should like to make the following remarks:—1. The coroner arranged for the examination to take place at 8 P.M. and that Dr. X, a brother practitioner, should supervise it. Having been in practice 22 years and being a good deal older than Dr. X I did not exactly grasp the meaning of this new experience. A pressing engagement prevented me attending the post-mortem examination at 8 o'clock, so Dr. X supervised his assistant. 2. I am aware of the fact that in large towns where there are specialists, Government medical inspectors, supervision at inquests does take place. 3. I am of opinion that in small and medium-sized towns where all the medical men are general practitioners in friendly opposition, for one practitioner to supervise another is likely to lead to friction. As the coroner in his summing up remarked, "Gentlemen, on the one hand you have the opinion of a skilled physician, on the other the doctor who attended the deceased." 4. The remedy lies in our own hands, the Medical Association to which all practitioners in the district are members, should the majority consider the question as I do—that in lieu of the word "supervise" "consultation" should be used.

If the coroner should still wish for supervision he could employ a practitioner from another district and so avoid unpleasant friction among the medical men residing and practising in the town.

I am, Sirs, yours faithfully,

Sept. 17th, 1904. CONSULTATION.

*** Under Section 21 of the Coroners Act, 1887, the coroner is empowered to summon as a witness the medical man, if any, who has attended the deceased in his last illness, or should there be none "any legally qualified medical practitioner who is at the time in actual practice in or near the place where the death happened," and he "may direct such medical witness to make a post-mortem examination of the body of the deceased." "Provided that where a person states upon oath before the coroner that in his belief the death

of the deceased was caused partly or entirely by the improper or negligent treatment of a medical practitioner or other person such medical practitioner or other person shall not be allowed to perform or assist at such post-mortem examination." In this case what actually took place is not very clear but if we read our correspondent's letter aright he was directed to make the post-mortem examination but did not do so and it was made by another medical man in the locality, as it would have been had the deceased not been medically attended when ill. An order for supervision (the precise terms of which are not given) is not contemplated by the Coroners Act but cases must arise in which, although no direct charge of improper treatment is made, it may be to the advantage of the medical man attending the deceased to have independent testimony to the fact that there was no want of skill on his part. The public interest at the same time demands that the inquiry should be thorough. If "Consultation" had practised in the South-Western district of London he would probably have found the post mortem examination intrusted to a stranger without himself having any opportunity afforded to him of taking part in it and he might not even have been called as a witness, as apparently he was. He would then have had far more serious ground of complaint. At the same time the presence of a second medical man by the coroner's order at the post-mortem examination in ordinary cases does not seem to be contemplated by the Coroners Act and it is not easy to see whence the authority to pay his fee is derived. It is, no doubt, a statute which might be amended with advantage.—ED. L.

THE APPEAL ON BEHALF OF MISS E. B. PELLATT, L.S.A.

THE treasurer, Surgeon-Colonel F. H. Welch, 8, Brandram-road, Lee, S.E., desires to acknowledge the receipt of the following sums additional to those already published:—

	£	s.	d.
Dr. H. E. Symes-Thompson	1	1	0
Dr. Gertrude Keith ...	1	1	0
Mrs. Rose Stride ...	5	0	0
Rev. G. T. A. d'Arcy ...	0	10	2
Dr. Mary C. Murdock ...	3	3	0
Dr. Amy Sheppard ...	2	2	0
Dr. Frances Ede	2	2	0
Dr. Caroline Sturge ...	1	1	0
Dr. Margaret Joyce ...	0	10	6
Dr. W. Lyne Blight ...	2	2	0
Dr. John Anderson ...	1	1	0
Miss Adela Bosanquet	1	1	0
Dr. Mary B. Doule ...	3	3	0
Miss E. Hancock... ...	0	5	0
Mr. Cook	1	0	0
Dr. G. H. Keyworth...	1	0	0
Dr. E. Newlyn Smith	0	10	6
Miss Helen B. Hanson	0	10	6
"Lucerne"	0	5	0
Mr. Henry T. Butlin...	2	2	0
Mrs. Gwyn	1	0	0
Anon.	0	10	6
Miss A. Bonham Carter	5	0	0
Dr. Lucie Whitby ...	0	5	0
Dr. Ethel Bentham ...	0	10	6
Dr. Ethel Williams ...	0	10	6
Surgeon-Lieutenant-Colonel E. A. H. Roe, M.S....	1	1	0
Dr. Edith Neild	1	0	0
"H."	0	10	6
Mr. A. T. Jones	1	1	0
Miss Green	0	5	0
Dr. A. De Steiger	1	0	0
Dr. C. Hodgins Brown	1	0	0
Dr. Mabel Paine	1	1	0
Mrs. and Misses Bell ...	1	2	6
Mr. T. J. Boxenham ...	1	1	0
Dr. Mary E. Rye	1	1	0
Anon.	2	0	0
Captain W. S. Crosthwait, R.A.M.C. ...	1	0	0
Dr. Charlotte E. Fergusson-Davie...	1	1	0
Dr. Alice H. A. Boyle ...	2	2	0
Dr. Clara A. S. Fitter ...	3	3	0
Dr. Rose Bale	1	1	0
Anon.	25	0	0
Mrs. Gutch	1	0	0
Dr. Marion S. Linton ...	1	1	0

COCKADES.

To the Editors of THE LANCET.

SIRS,—Permit me to say that "Medicus" is in error in his observations as to the correct use of the "cockade." A cockade as part of a livery used to mean that the wearer was a servant in some *military capacity* of the House of Hanover. This House no longer occupies the throne so that the cockade is really meaningless in the present day. Anyone can therefore, if he pleases, adopt it. But it was always a badge of military service and therefore to say that a justice of the peace should use a cockade is absurd.

I am, Sirs, yours faithfully,

Sept. 25th, 1904. HERALD.

To the Editors of THE LANCET.

SIRS,—May I correct an error in the letter of "Medicus" on the above in THE LANCET of Sept. 24th? Justices of the peace as such are not entitled to the use of cockades.

I am, Sirs, yours faithfully,

Sept. 27th, 1904. RECORDER.

"HOSPITAL SUNDAY FUN."

A CORRESPONDENT writes:—"You pointed out in a recent leading article that the Hospital Sunday Fund had unfortunately this year suffered a diminution. That the 'Fund' has diminished is painfully patent to all observers noticing the windows of the offices in Queen Victoria-street, for one row of the enamelled letters on the windows now reads 'Hospital Sunday Fun' the 'Fund' having been reduced by one-quarter! It is to be hoped, however, that the public will note that although verbally this leads to 'Fun' in reality it does otherwise."

ADVERTISING.

To the Editors of THE LANCET.

SIRS,—Could you give me some idea of the views likely to be held by the General Medical Council on my conduct were I to write a series of short articles, letters, &c., on medical matters over my own name and address and have the same published in the lay papers? These, with perhaps the publication of a "diet sheet," would be a useful and cheap method of having my name brought before the public and would doubtless add to the numbers of my *clientèle*. I note that this practice is pursued by some medical men but am not quite sure that the "Council" would look with favour on me were I to follow suit.

I am, Sirs, yours faithfully,

Sept. 24th, 1904. COUNCIL.

*** We do not know whether our correspondent is serious in his proposal or whether his letter is a *ballon d'essai*, but if the former we are quite certain that the General Medical Council would look upon the idea with great disfavour and, in our opinion, rightly so. No amount of blacks will make a white and if other medical men write as our correspondent suggests, a statement which we doubt, this is no reason why he should demean himself by following their example.—ED. L.

HOLMAN TESTIMONIAL FUND.

THE following further subscriptions to the above fund have been received. Subscriptions may be sent to Dr. John H. Galton, Chunam, Sylvan-road, Norwood, S.E., or to Mr. W. A. Berridge, Oakfield, Redhill, Surrey

	£	s.	d.
Dr. Robert Farquharson, M.P.	1	0	0
Dr. C. E. Douglas	1	1	0
Mr. S. G. Sloman ...	1	1	0
Dr. StClair Thomson ...	1	1	0
Mr. J. H. Ewart	1	1	0

LARGE INFANTS.

To the Editors of THE LANCET.

SIRS,—In reference to Mr. R. E. W. Jennings's note *re* a large infant, I have three times during the last eight years delivered a child weighing 14 pounds. They were all born without the use of forceps and both mother and child did well in each case. I might also add that one of my children weighed 13½ pounds the day after birth.

I am, Sirs, yours faithfully,

N. B. W.

To the Editors of THE LANCET.

SIRS,—Seeing in the current issue of THE LANCET a note on unusual size of a newly born infant, it may be of interest to refer to a case in which I had the assistance of Dr. A. C. McVittie of Rugeley. We delivered a woman safely of a male child on Oct. 5th, 1901, who weighed 13 pounds 9 ounces at birth. The mother had had previously two normal pregnancies and has since that date had another very easy labour normal in every way. In the case of the unusually large infant the history was quite clear that ten menstrual periods had been missed by the mother. The infant suffered for some months from weakness of abduction of shoulder and supination of forearm, but eventually recovered his power in great part. The growth of the child was unusually rapid and dentition was well established before the end of the fifth month.

I am, Sirs, yours faithfully,

Abbots Bromley, Sept. 27th, 1904. J. H. BENDLE.

East End.—The position of our correspondent is somewhat difficult and in our opinion it is best dealt with by a matter of agreement between the private medical attendant and the patient of the medical officer to the insurance company. The company must for its own protection have a claimant for compensation examined by its own medical man, and we do not think that any harm could accrue provided that the medical officer to the insurance company obtains the permission of the patient's own medical man. As a matter of courtesy we think that the former should acquaint the latter with the opinion which he forms after examination of the patient.

Nemo.—There are so many handbooks and manuals upon first aid that we feel ourselves unable to recommend any particular work on the subject. As to the provision for bandages, illustrations, &c., we fancy that the usual course is for the society or body which organises the course of lectures to provide the same. Our correspondent had better communicate with Colonel Sir Herbert C. Perrott, Bart., C.B., the chief secretary of the St. John Ambulance Association, St. John's Gate, Clerkenwell, London, E.C.

A. F.—The most complete list of "consumption sanatoria" for the open-air treatment of consumption that we know of is contained in "Burdett's Hospitals and Charities, 1904," published by the Scientific Press, Limited, and 29, Southampton-street, Strand, London, W.C.

Assistant.—Unless there is some clause in the agreement specifying regulations as to holidays we believe that it is the custom for payment to be made during a holiday. The salary is usually calculated annually.

W.—Our correspondent should apply in the first instance to the Commissioner of Police, New Scotland Yard, London. The appointment, we believe, finally rests with the Home Office.

During the week marked copies of the following newspapers have been received:—*Western News (Galway), Aberdeen Weekly Free Press, Carmarthen Journal, Westminster Gazette, Hertfordshire Mercury, Windsor and Eton Express, South Wales Daily News, East Anglian Daily Times, Walsall Advertiser, Surrey Advertiser, Reading Mercury, Mining Journal, Local Government Chronicle, Yorkshire Herald, Daily News, Daily Mail, Daily Chronicle, Standard, Yorkshire Post, Literary Digest, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 29th, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade	Min. Temp.	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Sept. 23	30·09	E.	...	77	60	52	50	54	Cloudy
,, 24	30·00	E.	0·15	107	61	51	53	55	Cloudy
,, 25	29·80	N.	0·02	76	60	49	50	51	Overcast
,, 26	29·95	S.W.	...	90	64	47	49	51	Fine
,, 27	30·01	E.	...	94	65	45	48	49	Foggy
,, 28	30·10	E.	...	83	66	49	50	51	Foggy
,, 29	30·15	ENE	...	96	62	51	52	53	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (5th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (6th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (8th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (5th).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. Lockyer, Dr. Handfield-Jones, and others. Paper:—Dr. J. M. M. Kerr: Certain Details regarding the Operation of Cæsarean Section in Cases of Contracted Pelvis, based upon a Series of 30 Cases.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. S. E. Dore: Clinique. (Skin.)

TUESDAY (4th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. T. H. Green: Clinique. (Medical.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. R. Russell: Anatomy of Spinal Cord.

WEDNESDAY (5th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. P. J. Freyer: Clinique. (Surgical.)

THURSDAY (6th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

CHARING CROSS HOSPITAL.—4 P.M. Dr. Bruce: Demonstration of Medical Cases. (Post-Graduate Course.)

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Mr. A. Doran: Diseases of the Fallopian Tubes clinically considered.

FRIDAY (7th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. A. Lawson: Clinique. (Eye.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. R. Russell: Localisation in the Spinal Cord.

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